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* Indicates that reports in the BIOS, CIOS and FIAT series are deposited in the Library of Congress Depository Libraries. For a complete list of these libraries, see page facing page 1, volume 5, of this Bibliography.

In addition to the indexes described on the back cover of this Bibliography, the Office of Technical Services has published the following reference works:

PB L 58101-R. SWIFT, GRACE. Government document series, analysed by Office of Technical Services. Rev. Nov 1947. 45 p. Price: 25¢

PB L 78000. LOWRY, W. KENNETH. OSRD reports: Bibliography and index of declassified reports having OSRD numbers. Jun 1947. 105 p. Price: 75¢

PB L 79322. SWIFT, GRACE and ORNE, JERROLD. Subject headings for technical libraries. Jun 1947. 167 p. Price: $1.50

PB L 81803. U. S. OFFICE OF TECHNICAL SERVICES, TECHNICAL INDUSTRIAL INTELLIGENCE DIVISION. Reports resulting from the investigation of German technology, 1945-1946, and index of personnel. May 1947. 207 p. Price: $5.25

## CHEMICALS AND ALLIED PRODUCTS

### Dyes

PB L 77672. KERN, J. G. and others. Identification of biological stains and indicators manufactured by I. G. Farbenindustrie, A. G. (FIAT Final Rept 1004). Mar 1947. 27 p. Price: Misc-$0.75
The I. G. Farbenindustrie A. G., manufactures biological stains and indicators, the identity of which has been established with reference to the textile dyestuffs and organic chemicals from which they are prepared. The methods of testing these products for acceptance as standard stains and indicators have been determined. Pertinent data are presented in this report.

PB L 27920. JULIUS and MAIER, JOHANN. Preparation of alkylated amines of the fatty and aromatic series. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs). (Frames 6686-6693 of FIAT Microfilm Reel 5 A). Jan 1904. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
A patent claiming this was tested and found worthless. In German.

PB L 27938. JEHL. Preparation of several pyridin dyes. (I. G. Farbenindustrie. Journal of Central laboratory for Dyestuffs). (Frames 6812-6815 of FIAT Microfilm Reel 5 A). Apr 1904. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This document contains a short description concerning the formation of pyridin dyes from Bromocyan, an amino compound, and pyridin in a solvent serving as diluting agent. The following amino compounds are mentioned as starting substances: Aniline, acetyl p-phenylendiamine, β-naphthylamine, sulfanilic acid. In German.

PB L 27939. FUSSENEGGER. Pigment Bordeaux N, Höchst. (I. G. Farbenindustrie. Journal of Central laboratory for Dyestuffs). (Frames 6816-6829 of FIAT Microfilm Reel 5 A). May 1904. 7 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This document is a report on the analyses of the above dye which is said to have been produced in the same way as "Pigmentrot Höchst", that is by coupling diazotized α-naphthylamine in presence of Turkey red oil with a mixture of β naphthol and 2,7 β-naphthol sulfonic acid. In German.

PB L 27940. FUSSENEGGER. "Lackrot No. 4644". (I. G. Farbenindustrie. Journal of Central laboratory for Dyestuffs). (Frames 6830-6836 of FIAT Microfilm Reel 5 A). May 1904. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The analysis of the sample showed that the essential parts were o-phenetidine-o-sulfonic acid and β-naphthol. In German.

PB L 27941. FUSSENEGGER. Acid alizarinblack SN and SNT, Höchst. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs). (Frames 6837-6844 of FIAT Microfilm Reel 5 A). May 1904. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Analysis showed that SN is a mixed primary azodye obtained by tetrazotising o-o-diamidophenol-p-sulfonic acid and subsequent combination with Schäffer's acid and β-naphthol. SNT contains several other dyes in addition to the primary azodye mentioned under SN. In German.

PB L 27942. HAECKEL. Sulfur containing azo dyes. Verification of French patent No. 337329 dated Nov. 5, 1903 assigned to the Ciba Comp. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs). (Frames 6845-6852 of FIAT Microfilm Reel 5 A). May 1904. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The verification of this patent did not lead to new products of any value. In German.

PB L 27943. JULIUS and JEHL. Condensation of o- and m-toluene sulfonic acid with hydrol. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs). (Frames 6853-6857 of FIAT Microfilm Reel 5 A). Jun 1904. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
No dyes with good properties could be produced by this method. In German.

PB L 27944. JULIUS and MÜNCH, E. Dihydroxybenzidine benzylether, dihydroxy benzidine sulfonic acid, and 2,2'-dihydroxyazobenzene. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs). (Frames 6858-6870 of FIAT Microfilm Reel 5 A). Jun 1904. 7 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Preparation, dyeing - and other properties, of the above compounds are described. In German.

PB L 27945. FUSSENEGGER. "Direktschwarz HW", Elberfeld. (I. G. Farbenindustrie. Journal of Central laboratory for Dyestuffs). (Frames 6871-6879 of FIAT Microfilm Reel 5A). Jun 1904. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Analysis showed that "Direktschwarz HW" is a polyazo dye obtained by the reaction of a certain tetrazo dye with diazobenzene chloride in alkaline solution. This report is written in faded German script.

PB L 27946. JULIUS and BLANGEY. New benzidine derivatives from derivatives of nitrobenzene and amines. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs). (Frames 6880-6895 of FIAT Microfilm Reel 5 A). Jun 1904. 8 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Azo compounds, asymetrically substituted condensation products of aromatic amines with nitrosobenzene were produced successfully and could be easily transformed into the corresponding benzidine compounds. Thus the following dyes were finally obtained. 1) "Dichlor Kongorot" from dichlorobenzidine by diazotising and subsequent coupling with the sodium salt of naphthionic acid. 2) "Echtrot-C-Saure" and dichloro methyl benzidine. 3) Dichloro methylbenzidine and naphthionic acid. 4) Dichloro methylbenzidine and "Echtrot-C-Saure." However, the technical production of these new azo dyes was not worthwhile, considering the high production cost and the qualities of the dyes. In German.

PB L 27947. MEYER, HANS. Anthracyanin, Bayer. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6896-6910 of FIAT Microfilm Reel 5 A). Jun 1904. 12 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Anthracyanin El is a blue-green powder, the brands 1) L and FL are deep bordeaux red powders which dissolve in water with blue color. Their dyeing properties are compared with other dyes. No conclusion is reached as the question of production costs was not yet solved. One-half of the document is unreadable being completely faded. In German.

PB L 27948. JULIUS and MAIER, J. Rhodamine from dimethyldichlorofluoran and diethylamine. (I. G. Farben-

industrie. Journal of Central Laboratory for Dyestuffs). (Frames 6911-6924 of FIAT Microfilm Reel 5 A). Jun 1944. 8 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Rhodamine was prepared in different ways and the products compared. Reference is made to the German Patent Application B 35840 / 12 of Nov. 27, 1903, in which tetraethylhomorhodamine was obtained. According to this document diethylhomorhodamine is obtained with some impurities. This so called "Rhodamine I" is rather insoluble and not a fast dye. The ethi ester of "Rhodamine I," "Rhodamine II" has qualities like "Rhodamine 6 G." The high cost of the starting material, pure diethylamin, accounts for high production costs. In German.

PB L 27949. JULIUS and FESSENEGGER. Rose-pink-base, paratolchrome yellow - Höchst. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6925-6930 of FIAT Microfilm 5 A). Jun 1944. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Rose-pink-base was proved to consist of o-anisidin. Paratolchrome upon analysis appeared to be composed of o-toluidine and methylphenylpyrazolon. In German.

PB L 27950. FUSSENEGGER. Helio orange GL and RL. (I. G. Farbenindustrie Journal of Central Laboratory for Dyestuffs). (Frames 6931-6937 of FIAT Microfilm Reel 5 A). Jun 1944. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
An analysis of the above dyes disclosed that o-nitraniline-p-sulfonic acid + R salt combine to form helio orange GL and a combination of p-chloroaniline-m-sulfonic acid + R salt is present in helio orange RL. In German.

PB L 27951. JULIUS. Dianisidine disulfonic acid + 2 β-naphthol. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6938-6939 of FIAT Microfilm Reel 5 A). Jul 1944. 1 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
An analysis of the above combination revealed a bordeaux lacquer dye with blue hue. Technical production seemed impossible because of the high cost of dianisidine. In German.

PB L 27952. JULIUS and MÜNCH, E. Yellow lacquer dyes from nitro-m-phenylene diamine sulfonic acid. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6940-6945 of FIAT Microfilm Reel 5 A). Jul 1944. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Patent problems regarding this dye are discussed. In addition a calculation of the production cost of the dye is presented. This application was made for the protection of future patent applications. In German.

PB L 27953. FUSSENEGGER. Pigment purple Höchst. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6946-6950 of FIAT Microfilm Reel 5 A). Jul 1944. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
An analysis of the above dye proved it to be a combination of o-anisidine + β-naphthol. The dye is not patented and has been considered practically worthless because of sublimation. In German.

PB L 27954. FUSSENEGGER. Green chrome dyes from o-hydroxy diazo compounds and anthrol. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6951-6956 of FIAT Microfilm Reel 5 A). Jul 1944. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Of the two anthrol combination products (of o-amido phenol sulfonic acid and of o-nitro-o-amido phenol-p-sulfonic acid) submitted for analysis, the former was pronounced worthless. The latter proved superior in several respects to "diamant green B- and SS Bayer", its disadvantage being sensitivity to copper. Calculation of cost is added. In German.

PB L 27955. LLOYD. Sulfur dyes derived from dinitro phenol. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6957-6961 of FIAT Microfilm Reel 5 A). Jul 1944. 3 f. Price: Microfilm-$1.00. Enlargement Print-$1.50
In checking the English patent application 1780503 (by Meyerberg and The Clayton Co.) it was confirmed that the dye yielded an excellent black similar to the "Berliner" sulfur black. Due to the fact that ample sulphur is formed as an intermediate in this process, contesting of the English patent application because of collision of the processes may be considered. In German.

PB L 27956. FUSSENEGGER. Diamant green SS, Elberfeld. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6962-6970 of FIAT Microfilm Reel 5 A). Jul 1944. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
A chemical analysis of the above dye disclosed that one was dealing with a primary diazo dye, consisting of amido naphthol disulfonic acid H + 1 mol. of p-dichloro aniline and 1 mol. of α-naphthyl amine. A calculation of the cost of production of the dye is included. In German.

PB L 27957. FUSSENEGGER. Checking of the American Patent 763756. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6971-6972 of FIAT Microfilm Reel 5 A). Jul 1944. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
In this American patent it was claimed that a condensation product suitable for preparing yellow lacquer dyes was obtained by the reaction of an aqueous solution of formaldehyde with an aqueous solution of nitrotoluidine hydrochloride. Re- checking of the process confirmed the claim. In German.

PB L 27958. JULIUS. Lacquer dye obtained from β-amido anthraquinone sulfonic acid. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6973-6977 of FIAT Microfilm Reel 5 A). Jul 1944. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This is a calculation of the production cost of the above dye. In German.

PB L 27959. FUSSENEGGER. Lacquer red 5944, Dahl. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6978-6983 of FIAT Microfilm Reel 5A). Jul 1944. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
An analysis of this dye revealed that it is the combination of pp-diamino diphenyl methane plus 2 mol. of β-naphthol disulfonic acid H, as described in a patent application. In German.

PB L 27960. JULIUS and MUNCH, E. Fast garnet base "Öhler." (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6984-7001 of FIAT Microfilm Reel 5 A). Aug 1944. 9 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This dye was sent in for analysis which proved it to be a mixture of p-and m-toluidine-azo-m-toluidine. Difficulties of analysis are emphasized. Instructions for use of the dye are attached. In German.

Dyes (contd)

PB L 27961. BLANGEY. Tetramethylbenzidine and its derivatives. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7002-7012 of FIAT Microfilm Reel 5 A). Sep 1904. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
A dye, for which the patent had expired, was tested but found not suitable as it was not fast to washing. Most of this is in German script and of poor legibility.

PB L 27962. FUSSENEGGER. "Pigmentchlorine GG", pigment red G, pigment purple A, pigment orange R, "paratol chlorine." (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7018-7033 of FIAT Microfilm Reel 5 A). Sep 1904. 11 f. Price: Microfilm-$1.00-Enlargement Print-$1.50
A number of dyes are described. They were analyzed. It is difficult to determine the result of these analyses as the report, in German script, is almost illegible.

PB L 27963. SCHRAUBE and SCHLEICHER. Para-nitraniline from formanilide. 2nd report. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7034-7075 of FIAT Microfilm Reel 5 A). Oct 1904. 24 f. Price: Microfilm-$1.00 - Enlargement Print-$2.50
The method is described in great detail, in German script. Literature is given for the reaction of carbon monoxide with oxygen-nitrogen compounds, from 1871 onwards. Added is a cost calculation for o-nitraniline, of 1909.

PB L 27964. FUSSENEGGER and HAECKEL. "Paratol orange." (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7076-7078 of FIAT Microfilm Reel 5 A). Oct 1904. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This substance which had been received from New York proved to be composed mainly of 3, nitro o-toluidine and $\beta$-naphthol. It was claimed that a U. S. patent of the firm Metz & Co. had been violated. In German.

PB L 27965. FUSSENEGGER. "Aceto purpurine 8 $B_2$" Berlin. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7079-7984 of FIAT Microfilm Reel 5 A). Oct 1904. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This dye was found to be a combination of beta-naphthylamine-3,6 disulfonic acid with o-o-dichlorobenzidine. In German.

PB L 27966. FUSSENEGGER. Method of preparing lacquer dyes fast to light. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7085-7088 of FIAT Microfilm Reel 5 A) Oct 1904. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This was the title of a competing firm's patent application. Re-testing of the method described did not confirm the claims made therein. The dye examined consisted of a combination of $\beta$-naphthylamine 3,6-disulfonic acid with R-salt. Most of this is in German script and not very legible.

PB L 27967. BRAREN. Analyses of "sulfur black T extra" Berlin and of preparation of dinitrophenol black from the plant. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7089-7092 of FIAT Microfilm Reel 5 A) Oct 1904. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The method used is described. A clear result was not obtained in 1900. This is in faded German script.

PB L 27968. HAECKEL. Azo dyes from the reduction products of p- or m-nitroanilido-alpha-naphthaquinone. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7093-7095 of FIAT Microfilm Reel 5 A) Nov 1941. 2 f. Price: Microfilm-$1.00 Enlargement Print-1.50
It is stated that fairly good dyes are obtained. In German.

PB L 27969. HAECKEL. Resorcinol-alpha-naphthylamine. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7096-7101 of FIAT Microfilm Reel 5 A) Nov 1904. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The preparation of this substance is described. Its application is discussed. An explanation of the description "pyro" and "meta" in names of salts is added. In German.

PB L 27970. JULIUS and BLANGEY. Condensation of cinnamic aldehyde with anthraquinone derivatives. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7102-7110 of FIAT Microfilm Reel 5 A) Nov 1904. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
According to a previous patent application 3-amino-anthraquinone or its derivatives had been condensated with glycerine and sulfuric acid to form a new ring system probably of the quinoline series, which had produced vat dyes similar to indanthren. According to this patent application condensation of cinnamic aldehyde with 3-amino anthraquinone is tried in different ways. No practical application for this product was found at this time. A part of this document is rather faded. In German.

PB L 27971. JULIUS and GUMLICH. Retesting of German Patent Application C 12156 IV/120. Process for production of monoacetyl- 2,6- diamino-4-nitrophenol. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7111-7113 of FIAT Microfilm Reel 5 A) Nov 1904. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
When the above patent was checked it was found that monoacetyl-2,6-diamino-4-nitro phenol obtained by acetylising picric acid with subsequent reduction of the nitro groups, when used as starting material for azo chromo dyes did not present any progress as compared with the dye produced previously from 2-amino-4-nitro phenol. In German.

PB L 27972. MAIER. Use of monochloro resorcinol as azo component. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7114-7119 of FIAT Microfilm Reel 5 A) Nov 1904. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Resorcinol was chlorinated by means of sulfonyl chloride to form monochloro resorcinol. This was combined with 2-amino-phenol-4-sulfonic acid as well as with 2-amino-3-nitro phenol-4-sulfonic acid. However the resulting dyes did not prove to be better than those produced from resorcinol. This document is written in German script.

PB L 27973. JULIUS and BLANGEY. Dyes from thio-resorcinol. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7120-7126 of FIAT Microfilm Reel 5 A) Nov 1904. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
It was tried without success to produce dyes from thioresorcinol. Resorcinol was replaced by its thio-derivative in sulfur-dyes - in its combinations with o-hydroxy diazo compounds and in its condensation products with phthalic anhydride. This document contains detailed descriptions of numerous experiments. In German.

PB L 27974. HAAS. Comparison of the black "sulfur dye DNPB Badische" from 1,2 dinitro-4-phenol with other

similar commercial products. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7127-7134 of FIAT Microfilm Reel 5 A) Nov 1904. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This document contains a detailed comparison of black sulfur dye "DNPS Badische" with several other black dyes with different trade names. The purpose of this document was to collect material for preparation of a patent suit against several firms. The greater part is written in German script.

PB L 27975. HAECKEL. Re-testing of German patent application K 25844 IV/22a: Process for production of a mordant mono azo dye. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7135-7137 of FIAT Microfilm Reel 5 A) Price: Microfilm-$1.00 Enlargement Print-$1.50
The dye of the application by Kalle, Bieberich consisting of 2-amino-4-chloro phenol-5-sulfonic acid and β-naphthol-was tested against the dye of Höchst consisting of 2-amino-4-chloro-6-sulfonic acid and β-naphthol. It was stated that there was no difference worth mentioning. In German.

PB L 27976. JULIUS and FUSSENEGGER. Production of lacquer colors fast to light. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7138-7142 of FIAT Microfilm Reel 5 A) Nov 1904. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The applicants had affirmed that mono azo dyes from aniline-o-sulfonic acid and its derivatives combined with naphtolsulfonic acids produce dyes extremely fast to light. Re-testing proved that previous applications of the same firm concerning "Helicrange" contained dyes of much higher qualities than a great number of dyes for which new applications were made. A patent could therefore not be granted. A detailed description in German script is added.

PB L 27977. BLANKEY. Preparation of a tetrazophenol-sulfonic acid. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7143-7148 of FIAT Microfilm Reel 5 A) Nov 1904. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
According the patent application F 17910 IV/22g m-phenylen-diamine disulfonic acid of the patent 79834 can be tetrazotized to form tetrazophenolsulfonic acid more readily, giving a larger yield by using an excess of nitrite. This tetrazo compound was coupled with β-naphthol. The azo compound with the theoretical amount of nitrite produced the same dye as that produced with an excess of nitrite. A detailed description is added. In German.

PB L 27978. FUSSENEGGER. Lacquer dyes from β-amido-1-naphthylmethane sulfonic acid. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7149-7152 of FIAT Microfilm Reel 5 A) Nov 1904. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Dyes from the above acid of which no structural formulas are given had already been the object of two German and one French patent as well as an American Patent of December 23, 1901. The description is given in German.

PB L 27979. JULIUS and FUSSENEGGER. Perchromin B, Berlin. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7153-7162 of FIAT Microfilm Reel 5 A) Dec 1904. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This document gives information concerning the qualitative analysis of a leather dye. It contains considerable amounts of inorganic components such as ammonia, sulfates, chromates, chlorides. The organic component was determined as a diaminodiphenylamine derivative. This dye was confirmed to be new and efficient. In German.

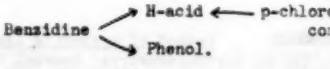
PB L 27980. HAECKEL. Re-testing of a monoazo mordant dye G.P.a. K 24903 IV/22a, Kalle & Co. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7163-7165 of FIAT Microfilm Reel 5 A) Dec 1904. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This very short report covers the re-testing of the German patent application No. K 24903 IV/22a relating to the preparation of a monoazo mordant dye from 2-amino-6-nitro cresol 3-sulfonic acid and β-naphthol. This dye is compared to a similar one from 2-amino 5-nitro phenol-4-sulfonic acid and β-naphthol and found to have superior dyeing qualities. In German.

PB L 27981. FUSSENEGGER. Lacquen Red A 101, Berlin. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7166-7167 of FIAT Microfilm Reel 5 A) Jan 1905. 1 f. Price: Microfilm-$1.00 - Enlargement Prints-$1.50
This dye was found to be the combination of α-naphthylamine-3,8-disulfonic acid and β-naphthol and is essentially identical with the product sold by Elberfelder Farbenfabriken under the trade name Heliopurpurin 4 BL.

PB L 27982. JULIUS and GUMLICH. Production of chloranil. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7168-7173 of FIAT Microfilm Reel 5 A) Jan 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This report contains directions for the production of chloranil from phenol by direct chlorination with chlorine and subsequent treatment of the resulting 2,4,6-trichlorophenol with a nitric acid hydrochloric acid mixture. In German.

PB L 27983. JULIUS. Blue sulfur dyes from quinone and its halogen derivatives, and thiosulfonic acids of the alkyl-β-phenylen-diamines. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7174-7185 of FIAT Microfilm Reel 5 A) Jan 1905. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This report contains the description of the synthesis of blue sulfur dyes from quinone and its halogen substituted derivatives with thiosulfonic acids of alkyl-β-phenylen-diamines. Discussions on the constitution of the above dyes of which the production was still in an experimental stage conclude this document. The production costs were still too high to make large scale production worth while. In German.

PB L 27984. FUSSENEGGER. Diamond Green, Cl. Cassela. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7186-7196 of FIAT Microfilm Reel 5 A) Jan 1905. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The analysis of this dyestuff showed that it is a polyazo dye of the following constitution:




This dye could not be produced because it was protected by a Geigy Patent No. 116521 of March 27, 1900.
In German.

PB L 27985. BEYER. Monochlyl amino hydroxybenzoyl benzoic acid. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7197-7199 of FIAT Microfilm Reel 5 A) Jan 1905. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Experiments for the preparation of monoethyl amino hydroxybenzoyl benzoic acid are reported, which were not yet terminated. This document is in German script.

PB L 27986. ALBRECHT. Preparation of mordant azo dyes (Patent application O 4543 IV/22a Oehler). (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7200-7204 of FIAT Microfilm Reel 5 A) Feb 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50

The new azo dye from amino nitro phenol-sulfonic acid and o-cresotic acid proved to couple faster and more completely than a dye produced from the same sulfonic acid and salicylic acid. Both types produce brown-yellow colors on wool. In German.

PB L 27987. FUSSENEGGER. Permanent red 4 B and 6 B, Berlin. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7205-7207 of FIAT Microfilm Reel 5 A) Feb 1905. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
It is stated that the trade mark 4 B represents a dye of the following constitution: p-toluidine-2-sulfonic acid with β-naphthol, and red 6 B, a dye from p-phenetidine -2-sulfonic acid with β-naphthol. A patent for red 4 B had been granted while red 6 B was free. The formulas in this document are faded and not quite legible. In German.

PB L 27988. JULIUS and ALBRECHT. Chlorinated hydroxy and aminophthalic acids. (I.G. Farbenindustrie. Journal of Central Laboratory for dyestuffs) (Frames 7208-7217 of FIAT Microfilm Reel 5 A) Feb 1905. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Potassium hydroxide reacts at a lower temperature than sodium hydroxide on tetrachlorophtalic acid. The product of the latter reaction contains less impurities. A separation of the produced 2 isomeric hydroxy acids was tried. An outlet for the practical application of the product had to be found. Discussions on constitution and properties of hydroxyphthalic acids are included in this document. In German.

PB L 27989. JULIUS and ALBRECHT. On the formation of sulfur black. (A,B and C containing) from diamino-phenol. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7218-7223 of FIAT Microfilm Reel 5 A) Feb 1905. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Diaminophenol when boiled with an aqueous solution of very high polysulfides yields an A,B and C containing black sulfur. A chart covering a large number of experiments is added. In German.

PB L 27990. FUSSENEGGER. "Eriochromschwarzblau B." (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7224-7230 of FIAT Microfilm Reel 5 A) Mar 1905. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Analysis showed that this dye is the combination of 1,2-amidonaphthol-4-sulfonic acid and β-naphthol. In German.

PB L 27992. JULIUS and FUSSENEGGER. "Ponceau HP." (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7237-7242 of FIAT Microfilm Reel 5 A) Mar 1905. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Analysis showed that the above dye is the combination of o-toluidine and α-naphthol-1,5-sulfonic acid. In German.

PB L 27993. JULIUS. "Heliopurpurin 3 Bl." (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7243-7244 of FIAT Microfilm Reel 5 A) Mar 1905. 2 f. Price: Microfilm-$1.00-Enlargement Print-$1.50
The composition of this dye is given in a short handwritten statement which is almost entirely faded. In German.

PB L 27994. JULIUS and FUSSENEGGER. "Orthocerise B." (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7245-7255 of FIAT Microfilm Reel 5 A) Mar 1905. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Analysis of a sample of "Orthocerise B" showed that the dye is an o-hydroxy azo compound of p-nitro-o-amino phenol and β-naphthol-3,6-disulfonic acid. In German.

PB L 27995. JULIUS. Fast azo grenade base H. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7256-7258 of FIAT Microfilm Reel 5 A) Mar 1905. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Analysis showed that the above compound consists of p-toluidine and m-toludine azo-m-toluidine. In German.

PB L 27996. HAECKEL. Process for preparation of methyl-naphthol. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7259-7263 of FIAT Microfilm Reel 5 A) Apr 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
1-Methyl-2-naphthol is obtained by reacting 1-methyl-2-naphthol (developed from 2 mol of β-napthol with 1 mol of formaldehyde) with zinc dust in alkaline solution. In German.

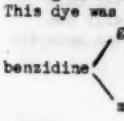
PB L 27997. JULIUS and FUSSENEGGER. Process for preparation of red lacquers fast to light. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7264-7266 of FIAT Microfilm Reel 5 A) Apr 1905. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Verification of an old German patent application confirmed the statement that the combination of monoazo dyes (Obtained from diazotized amido bases) with α-naphthol-4,8-disulfonic acid leads to the above lacquers. In German.

PB L 27998. JULIUS and BLANGEY. "Rhodamin Scharlach G." (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7267-7280 of FIAT Microfilm Reel 5 A) Apr 1905. 7 f. Price: Microfilm-$1.00-Enlargement Print-$1.50
This document contains the report on a detailed analysis of the above dye with numerous formulas. In German.

PB L 27999. JULIUS and BLANGEY. Preparation of hydroquinone by alkali melts of p-chlorophenol-o-sulfonic acid or p-dichlorobenzene sulfonic acid. (I.G. Farbenindustrie. (Frmaes 7281-7289 of FIAT Microfilm Reel 5 A) Apr 1905. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Detailed directions for the preparation are given in this document, which is written in faded German script.

PB L 28009. JULIUS and FUSSENEGGER. "Salicinschwarz U and US, Kalle." (I.G. Farbenindustrie. Journal of Central Laboratory for Dyesstuffs) (Frames 7434-7438 of FIAT Microfilm Reel 5 A) Jul 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Checking of the above dyes disclosed that "Salicinschwarz U" is uniform, while "Salincinschwarz US" is a mixture of different dyes. "U" is the combination of diazotized 1,2-amino naphthol-4-sulfonic acid and β-naphthol. In German.

PB L 28010. FUSSENEGGER. Diamine brown S, Cassella. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7439-7445 of FIAT Microfilm Reel 5 A) Jul 1905. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This dye was analyzed and found to be




In German.

PB L 28011. JULIUS. The commercial vat dyes Eriochrome black A 4938 and Eriochrome black AV 4559. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7446-7450 of FIAT Microfilm Reel 5 A) Jul 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
These dyes were analyzed and declared to be induline sulfonic acid products, identical with "Solid blue RR Geigy." In German.

PB L 28012. JULIUS and FUSSENEGGER. Process lacquer B extra, Ahlhein. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7451-7462 of FIAT Microfilm Reel 5 A) Jul 1905. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The analysis of this dye failed. It is stated to consist of several closely related substances which could not be separated, but "R-salt" was present as a component. In German.

PB L 28013. JULIUS and HAECKEL. Phenylthioquinones and dyes from them with dimethyl-p-phenylene diaminethiosulfonic acid. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7463-7468 of FIAT Microfilm Reel 5 A) Jul 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Several new blue dyes were prepared on this basis. Their structural formulae are given. It is stated that the substances obtained have the characteristics of the thiazine dyes, though they do not give the general reactions of sulfur dyes. In German.

PB L 28014. JULIUS and HAECKEL. Amino derivatives of the omega-sulfonic acid of acetanilide, and its monoazo combinations. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7469-7478 of FIAT Microfilm Reel 5 A) Jul 1905. 7 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
It is described how the acid was prepared. The new substances prepared with it are described. Results of their tests are indicated. It is stated that the compounds under investigation had poor dyeing qualities. In German.

PB L 28015. JULIUS and FUSSENEGGER. "Wool black DG." Kalle. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7479-7486 of FIAT Microfilm Reel 5 A) Jul 1905. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
An analysis of this dye was attempted. It was found to be a mixture of three components, two of which were identified with commercial products while the third one could not be analyzed. In German.

PB L 28016. JULIUS and MUNCH, E. "Chloranil blue 2a." (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7487-7490 of FIAT Microfilm 5 A) Jul 1905. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Instructions for the preparation of this dye from tetrachloroquinone and dimethyl-p-phenylendiamine thiosulfonic acid are given, also a calculation of the cost. In German.

PB L 28017. BLANGEY. Method for preparation of mordant dyeing o-hydroxy monoazo dyes. Patent application G 20744 (Soc.for Chemical Industry Basel). (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7491-7494 of FIAT Microfilm Reel 5 A) Aug 1905. 2 f. Price: Microfilm-$1.00 - Enlargement Print-1.50
The claims in the application were tested. However only a part of the tests led to any results. Essentially one component of the dye (on which this application was made) was identified as commercial "palatin chrome black." In German.

PB L 28018. FUSSENEGGER. Leather yellow GS, Ehler. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7495-7502 of FIAT Microfilm Reel 5 A) Aug 1905. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The main component of this dye was found to be disulfonic acid of a diaminophenyl acridine. In German.

PB L 28019. BEYER and HOHSE. Reaction of formaldehyde with amines and oxidation of the condensation products. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7503-7507 of FIAT Microfilm Reel 5 A) Sep 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
A process of this nature had been offered for purchase. The authors tested it and could not confirm the claims made by the inventor. They hold that no useful products can be obtained by this method. In German script.

PB L 28020. JULIUS and ALBRECHT. Monoazo dyes from the two nitro products of p-amino dimethylaniline. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7508-7512 of FIAT Microfilm Reel 5 A) Sep 1940. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Investigations are reported on monoazo dyes as obtained from R-salt by coupling with a few of the two isomeric nitro products of p-amino dimethylaniline in which the amino group in ortho or in meta position to the nitro group was dimethylated. The former compound was known before. The latter has been produced by the authors. It is said to be a good quality dye of blue-black color. In German.

PB L 28021. JULIUS and HAECKEL. Method for the preparation of the asymmetric $\alpha$-$\beta$ dinaphthazines. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7513-7516 of FIAT Microfilm Reel 5 A) Sep 1905. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
By the addition of sodium acetate and by the influence of air a substantial improvement of the yield of dinaphthazines is attained over the method as described in German patent application 19782 IV/12p. This document is written faded German script. Legibility is rather poor.

PB L 28022. BERNTHSEN and FUSSENEGGER. Acid anthracene brown V. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7517-7522 of FIAT Microfilm Reel 5 A) Oct 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Investigations proved that p-nitro-o-amino phenol and naphthol-4-sulfonic acid had been used for the formation of the dye. In German.

PB L 28023. GUMLICH. Introduction of amino groups into aromatic polynitro compounds by means of hydroxyl amine in alkaline solution. Re-testing of German patent application. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7523-7526 of FIAT Microfilm Reel 5 A) Oct 1905. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This document contains a detailed description of an attempt to produce dinitrophenylen diamine and also m-dintrophenol. Retesting shown poor results in both cases. In German.

## Plastics and Plasticizers

PB L 70301. I. G. FARBENINDUSTRIE A.G., LUDWIGSHAFEN AND WOLFEN, GERMANY. Patents and research reports on organic chemicals. (FIAT Microfilm Reel B 27, Frames 36464-37493) 1930-1945. 1029 f. Price: Microfilm-$6.00 - Enlargement print-$103.00

Plastics and Plasticizers (contd)

This FIAT microfilm reel consists of items dealing with chemical technology, particularly in the field of plastics. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 36464 PB L 70301 | Last frame of a list of patent abstracts, the beginning of which is not available. | |
| 36465-36837 PB L 70301 | List of patent abstracts in the field of rayon. 1943. In German. | $37.50 |
| 36838-37176 PB L 70301 | List of patent abstracts in the field of rayon. 1944. In German. | 34.00 |
| 37177-37198 PB L 70301 | List of patent abstracts in the field of rayon. 1945. In German. | 2.50 |
| 37199-37214 PB L 70301 | Strength tests on rubber at low temperatures. By Valko. 1930. In German. | 2.00 |
| 37215-37220 PB L 70301 | Tests on commercial Buna M. By Teupel. 1942. In German. | 1.50 |
| 37221-37234 PB L 70301 | Experiments for the production of Buna S free from linoleic acid. By Teupel. 1942. In German. | 1.50 |
| 37235-37237 PB L 70301 | Experiments with Buna S. By Teupel. 1942. In German. | 1.50 |
| 37238-37242 PB L 70301 | Preparation of copolymers from butadiene and methyl-methacrylate. By Teupel. 1942. In German. | 1.50 |
| 37243 PB L 70301 | Minutes of a Buna meeting. 1943. In German. | 1.50 |
| 37244-37249 PB L 70301 | Correspondence concerning testing of resin solutions. 1939. In German. | 1.50 |
| 37250-37253 PB L 70301 | A mixture of monodibutyl phosphates as hardening agent. 1939. In German. | 1.50 |
| 37254-37260 PB L 70301 | Testing of resin. 1939. In German. | 1.50 |
| 37261-37263 PB L 70301 | Testing of soft resins as to their use as lacquers. 1938. In German. | 1.50 |
| 37264-37267 PB L 70301 | Testing resins as to their resistance to weathering. 1939. In German. | 1.50 |
| 37268 PB L 70301 | "Luphen" alkyd resins. 1939. In German. | 1.50 |
| 37269 PB L 70301 | "Luphen AT". By Hecht. 1939. In German. | 1.50 |
| 37270-37274 PB L 70301 | Properties and uses of "Luphen AT". 1939. In German. | 1.50 |
| 37275-37279 PB L 70301 | Preliminary treatment of metal surfaces on which "Luphen AT" is applied. By Hecht. 1939. In German. | 1.50 |
| 37280-37283 PB L 70301 | Use of "Luphen AT" instead of phenytal. 1939. In German. Poorly legible in parts. | 1.50 |
| 37284 PB L 70301 | "Luphen AT" as protective lacquer for pieces of metal. n. d. In German. Legibility poor. | 1.50 |
| 37285-37287 PB L 70301 | Testing "Luphen" lacquer for elasticity and adhesiveness. 1939. In German. | 1.50 |
| 37288-37295 PB L 70301 | Solution of synthetic resin as shellac substitute for India-ink. By Krzikalla and Reppe. 1940. In German. | 1.50 |
| 37296-37299 PB L 70301 | Disulfamide formaldehyde resins. By Krzikalla. 1940. In German. | 1.50 |
| 37300-37302 PB L 70301 | Soft resins and xylenol formaldehyde resins. By Hecht and Niemann. 1940. In German. | 1.50 |
| 37303-37308 PB L 70301 | Resin for printing purposes. 1940. In German. | 1.50 |
| 37309-37312 PB L 70301 | Disulfamide formaldehyde resin as shellac substitute for India-ink and sealing wax. 1940. In German. | 1.50 |
| 37313 PB L 70301 | Resin for printing purposes. 1940. In German. | 1.50 |
| 37314-37315 PB L 70301 | Phenol formaldehyde resins. 1940. In German. | 1.50 |
| 37316 PB L 70301 | Resin as polishing agent. 1940. In German. | 1.50 |
| 37317-37319 PB L 70301 | "Luphen AT" analyses. By Hecht, Reppe and Niemann. 1940. In German. | 1.50 |
| 37320-37325 PB L 70301 | Disulfamide formaldehyde resins as water helliogravure colors which are waterproof. 1940. In German. | 1.50 |
| 37326 PB L 70301 | Disulfamide formaldehyde resins as substitute for plasticized "Plastopals". 1940. In German. | 1.50 |
| 37327-37345 PB L 70301 | Resins for the production of oil varnishes. 1940. In German. | 2.00 |
| 37346-37347 PB L 70301 | Important substances for the production of "Luphen" resins. By Hecht and Reppe. 1940. In German. | 1.50 |
| 37348-37352 PB L 70301 | "Luphen" brands resistant to sodium carbonate. 1940. In German. | 1.50 |
| 37353-37357 PB L 70301 | "Luphen H". 1940. In German. | 1.50 |
| 37358-37362 PB L 70301 | Testing resins for their possible use as offset printing colors. 1940. In German. | 1.50 |
| 37363-37368 PB L 70301 | "KA" resins. By Dornheim, Reppe and Krzikalla. 1940. In German. | 1.50 |
| 37369 PB L 70301 | Testing soft resin and resin 60540. 1940. In German. | 1.50 |
| 37370-37375 PB L 70301 | Testing soft resin and anthracene acrylic acid resins. By Dornheim, Krzikalla and Reppe. 1940. In German. | 1.50 |
| 37376 PB L 70301 | Preparation of anthracene acrylic acid resins. 1940. In German. | 1.50 |
| 37377-37379 PB L 70301 | Soft resins AT which are highly viscous. By Hecht and Reppe. 1940. In German. | 1.50 |
| 37380 PB L 70301 | Storage of "Luphen AT". By Jordan. 1940. In German. | 1.50 |
| 37381-37389 PB L 70301 | Testing sulfamide resins. 1940. In German. | 1.50 |

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37390-37395 PB L 70301 — Discussion in regard to a new brand of "Luphen". 1940. In German. 1.50

37396-37398 PB L 70301 — A highly condensed synthetic resin. 1940. In German. 1.50

37399 PB L 70301 — Testing resin and soft resin for their possible use for nitro-combination-white lacquers. 1940. In German. 1.50

37400-37409 PB L 70301 — Testing of triglycol. 1940. In German. 1.50

37410-37414 PB L 70301 — Testing various brands of "Luphen AT". 1940. In German. 1.50

37415-37426 PB L 70301 — Testing of "HA" resins. n. d. In German. 1.50

37427-37430 PB L 70301 — A synthetic resin made by Noggerath, Hamburg. By Hecht and Reppe. 1940. In German. 1.50

37431-37434 PB L 70301 — Testing of "Diphen" made by Louis Blumberg, Zwickau. By Hecht and Reppe. 1940. In German. 1.50

37435-37442 PB L 70301 — Possible uses of M-phenol oil instead of xylenol for the production of "Luphen". By Prillwitz and Jordan. n. d. In German. 1.50

37443-37448 PB L 70301 — Testing of resin, soft resin and anthracene acrylic acid resins. 1940. In German. 1.50

37449-37493 PB L 70301 — Report on "Luphen" resins. 1940. In German. 4.50

PB L 70301-S. I. G. FARBENINDUSTRIE A.G., LUDWIGSHAFEN AND WOLFEN, GERMANY. Patents and research reports on organic chemicals. (FIAT Microfilm Reel B 27, Frames 36464-37493, abstract cards) 1930-1945. 54 p. Price: Microfilm-$2.00 - Photostat-$4.00. These are abstracts of the items on Reel B 27 (PB 70301). They were prepared by FIAT abstracters in Germany.

PB L 73437. I.G. FARBENINDUSTRIE A.G., LUDWIGSHAFEN, GERMANY. Reports on the production of organic chemicals. (FIAT Microfilm Reel X 25, Frames 1002-1239) 1940-1945. 238 f. Price: Microfilm-$3.25 - Enlargement print-$24.00 This FIAT microfilm reel consists of 44 items dealing with the preparation of organic products, particularly plastics. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $3.25. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 1002-1010 PB L 73437 | Oppanol B. 1940. In German. | $1.50 |
| 1011-1013 PB L 73437 | Dispersions of plastics free from "Ampho" soap. By Craemer. 1945. In German. | 1.50 |
| 1014-1017 PB L 73437 | Testing of emulsion films in the plant. 1940. In German. | 1.50 |
| 1018 PB L 73437 | Processing of "Polystyrol EF." 1940. In German. | 1.50 |
| 1019-1021 PB L 73437 | Comparative measurements with different viscosimeters. 1940. In German. | 1.50 |
| 1022-1024 PB L 73437 | Oppanol B emulsions (d 472). By Craemer. 1940. In German. | 1.50 |
| 1025-1030 PB L 73437 | Dispersions of plastics in powdery form. By Craemer. 1940. In German. | 1.50 |
| 1031-1034 PB L 73437 | Polychloroprene, further chlorinated. By Craemer. n.d. In German. | 1.50 |
| 1035-1037 PB L 73437 | Compatibility of aryl sulfamides with "Lucrylans." By Craemer. n.d. In German. | 1.50 |
| 1038-1041 PB L 73437 | Heat deformation of "Igelit MP." By Berger. 1940. In German. | 1.50 |
| 1042-1043 PB L 73437 | Gluing of "Lupamid" on leather. n.d. In German. | 1.50 |
| 1044-1046 PB L 73437 | Plasticizers for "Lucrylan 400 D." 1940. In German. | 1.50 |
| 1047-1056 PB L 73437 | Testing different electrolytes for their possible use as precipitants in the production of fibrous leather. By Craemer. 1941. In German. | 1.50 |
| 1057-1060 PB L 73437 | Improvement of the stability of "Igelit" mixtures. 1940. In German. | 1.50 |
| 1061-1062 PB L 73437 | "Lucrylan" dispersion with ethylhexyl vinyl ether. By Craemer. 1940. In German. | 1.50 |
| 1063-1069 PB L 73437 | Isopropyl anthracene. By Craemer. 1940. In German. | 1.50 |
| 1070-1071 PB L 73437 | "Lucrylan 450 D (LJ 450)" free from "Ampho" soap. By Craemer. 1940. In German. | 1.50 |
| 1072-1075 PB L 73437 | Butadiene copolymers in dispersed form. By Craemer. 1940. In German. | 1.50 |
| 1076-1079 PB L 73437 | Testing of castor oil substitutes. By Craemer. 1940. In German. | 1.50 |
| 1080-1081 PB L 73437 | Hydroxyethylation product obtained from a polymeric resin (a product capable of swelling or dissolving in water). By Craemer. 1940. In German. | 1.50 |
| 1082-1084 PB L 73437 | Decahydronaphthene-ester of a condensation product obtained from anthracene and acrylic acid. By Craemer. 1940. In German. | 1.50 |
| 1085-1089 PB L 73437 | "Igelit-Palamoll" mixtures. By Schwarz. 1940. In German. | 1.50 |
| 1090-1106 PB L 73437 | "Igelit PCU" pastes. 1940. In German. | 2.00 |
| 1107-1110 PB L 73437 | Substitute for "Ampho" soap in "Lucrylan 450 D (LJ 450). By Craemer. 1940. In German. | 1.50 |
| 1111-1120 PB L 73437 | Processing of "Igelit" by the dipping method. 1940. In German. | 1.50 |
| 1121-1122 PB L 73437 | Weathering and photochemical tests of "Polysterol III," of the copolymer 80/20 from styrene-methacrylic methylester, and of "Plexiglum M 246." By Beck. 1940. In German. | 1.50 |
| 1123-1124 PB L 73437 | "Naphthalinharz C." 1940. In German. | 1.50 |
| 1125-1130 PB L 73437 | Propane sulfanilamide. By Craemer. 1940. In German. | 1.50 |
| 1131-1134 PB L 73437 | Production of "Igelit" hoses by means of the Bersdorf worm-spraying machine. By Beck. 1940. In German. | 1.50 |

Plastics and Plasticizers (contd)

1135-1136 PB L 73437 — Polyacrylmethylamine. By Craemer. 1940. In German. 1.50

1137-1140 PB L 73437 — Dispersions of plastics in powdery form. By Craemer. n.d. In German. 1.50

1141-1142 PB L 73437 — Thickening agents for cable insulating oils. n.d. In German. 1.50

1143-1144 PB L 73437 — Distyrene as plasticizer for polystyrene. By Beck. 1940. In German. 1.50

1145-1147 PB L 73437 — Dispersions from glazing-varnish. By Kollek. 1940. In German. 1.50

1148-1153 PB L 73437 — Dispersions from glazing-varnish. By Craemer. 1940. In German. 1.50

1154-1160 PB L 73437 — Production of coarse-grained materials for injection molding. 1940. In German. 1.50

1161-1162 PB L 73437 — (These frames are damaged.)

1163-1164 PB L 73437 — The possibility of spraying "Igelit" mixtures which contain "Palamoll." By Beck. 1940. In German. 1.50

1165-1173 PB L 73437 — Experiments for improving the adhesiveness of "Lucrylan II" films on textile fabrics. By Beck. 1940. In German. 1.50

1174-1179 PB L 73437 — Behavior of "Bindemittel Li 160" under varying conditions. By Schwarz. 1940. In German. 1.50

1180-1212 PB L 73437 — Further studies on polyamides. By Mattauch. 1940. In German. 3.50

1213-1217 PB L 73437 — Oppanol C and E. By Craemer. 1940. In German. 1.50

1218-1223 PB L 73437 — (These frames are damaged.)

1224-1231 PB L 73437 — Dielectric strength of plasticized "Igelit" materials. 1940. In German. 1.50

1232-1234A PB L 73437 — List of plasticizers. 1941. In German. 1.50

1235-1239 PB L 73437 — Oppanol B emulsions with addition of styrene. 1940. In German. 1.50

PB L 73437-S. I.G. FARBENINDUSTRIE A.G., LUDWIGSHAFEN, GERMANY. Reports on the production of organic chemicals. (FIAT Microfilm Reel X-25, Frames 1002-1239, abstract cards) 1940-1945. 56 p. Price: Microfilm-$2.00 - Photostat-$4.00
These are abstracts of the items on reel X-25 (PB 73437). They were prepared by FIAT abstracters in Germany.

PB L 30879. JAYNES, C. B. Test on Dow Chemical Company's copolymer-styrene compound. (AAF Materiel Command Memo Rept EXP-M-54-656-614) Nov 1942. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

* PB L 80378. TOPP, and others. Thermo-plastic and thermo-setting resins. Interrogation of Dr. Eisenmann (Dynamit A. G., Troisdorf). (BIOS Final Rept 1191, Item 22; Interrogation Rept 425). Jun-Jul 1946. 29 p. Price: Microfilm-$1.00 - Photostat-$2.00
Fields of work in which Dynamit A. G. are known to have been actively interested were selected for this interrogation, the report is divided into two parts as follows: Part I - 1. Flexible phenol Hormaldehyde resins, wherein the search had been largely unsuccessful; 2. Cold setting phenolic glues, T. 77 resin was the prefered product of this type. Formula and process are given; 3. Adhesive varnish P. 1091; 4. Phenolic resins, covering such information as raw materials, catechol resins, catalysts and Novolaks; 5. Urea laminating resin; 6. Certain miscellaneous substances dealing with resins. Part II of the report contains details of the composition and method of manufacture of a cellulose nitrate composition called Trolit F. Appendices and diagrams are attached.

## Miscellaneous Chemicals

PB L 74341. DEUTSCHE GOLD- UND SILBERSCHEIDEANSTALT, FRANKFURT AU MAIN, GERMANY. Chemical reports and books. (FIAT Microfilm Reel G 295, Frames 3005-3459) 1942-1945. 455 f. Price: Microfilm-$5.50 - Enlargement print-$45.50.
This FIAT microfilm reel consists of 12 reports and books in the field of organic and inorganic chemistry. The material was obviously seized on the premises of the above company. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 3005-3043 PB L 74341 | Experiments for leaching out arsenic from commercial enamel on steel sheets. By Stuckert and Prüschek. n. d. In German. | $ 4.00 |
| 3044-3052 PB L 74341 | Preparation of 2-hydroxy-1, 6-hexamethylene diamine. By Wagner. 1945. In German. | 1.50 |
| 3053-3064 PB L 74341 | Studies in the field of plasticizers. By Schulz. 1945. In German. | 1.50 |
| 3065-3073 PB L 74341 | Preparation of a new gelatinizing agent for Igelit by chlorination of diethylidene pentaerythritol. By Wagner. 1945. In German. | 1.50 |
| 3074-3083 PB L 74341 | "Bifunctional compounds". By Schulz. 1945. In German. | 1.50 |
| 3084-3093 PB L 74341 | Recovery of fatty acids and phenols from preliminary wash liquor fractions. By Schwarze. 1945. In German. | 1.50 |
| 3094-3104 PB L 74341 | Preparation of cyanuric chloride. By Huemer. 1945. In German. | 1.50 |
| 3105-3129 PB L 74341 | Report on experiments for improving products by filtration of molten metals and alloys. 1944. In German. | 2.50 |
| 3130-3271 PB L 74341 | Manual entitled "Processing of natural rubber, synthetic rubber, and soft-rubber-like plastics". By Kluckow. 1942. In German. | 14.50 |
| 3272-3459 PB L 74341 | "Textbook on surface protection and surface improvement by means of lacquers and pickling solutions, with special regard to the raw materials, production methods, and fields of application of the lacquers." By Zimmer. 1942. In German. | 19.00 |

PB L 52015. GERMANY. REICHSAMT FÜR WIRTSCHAFTSAUSBAU. Chemische Berichte, Jun 1942. Jun 1942. 70 p. Price: Microfilm-$2.00 - Photostat-$5.00
Abstracts of the papers follow. The papers will be available

in photostat form. Please include PB and page numbers when ordering individual items. In German.

| Pages | Title | Price |
|---|---|---|
| 409-423<br>PB L 52015 | EIGENBERGER, E. (Deutsche Technische Hochschule, Prague). Ketolic oxyns. I. Characterization of linseed oil oxyns by the aluminum number. In German. | $1.00 |

The Al no. is defined as the parts of Al by wt. combining with 100 parts of sample. The reagent was a soln. of Al isobutylate in $C_6H_6$. Al turnings, 20 g., were added to 1.4 g. $HgCl_2$ in 110 g. anhyd. $Me_2CHCH_2OH$ and 2 cc. of BuOH, 2 N with respect to HCl. The reaction mixt. was dild. with 100 cc. $C_6H_6$, centrifuged, distd. to dryness in vacuo, and dissolved in pure $C_6H_6$, and the concn. of Al was detd. and adjusted to about 0.005 g.Al/cc. In the detn. a dry 0.1-0.7 g. sample dissolved in 10-50 cc. $C_6H_6$ was titrated with the Al isobutylate soln. After each addn., a strip of filter paper about 10 x 90 x 0.2-0.4 mm. previously stored under a bell jar at 100% relative humidity was inserted. Excess Al isobutylate or colloidal basic salts which existed at the endpoint were coagulated, did not climb as high on the paper as the solvent, and gave a dark-red color on the paper with a cold soln. of alizarin in $C_6H_6$. Reactive ketonic groups in carboxylic acids could be recognized when the Al no. exceeded the Al equiv. of the acid no. On direct titration without interruption, the endpoint with monocarboxylic acids such as stearic acid occurred at a ratio of 1 g. mol. of the acid to 1 g. atom of Al. The Al no. and the corresponding g. mols. of compd. per g. atom of Al of series of compds. were as follows, resp.: $HCO_2H$, 0, -; AcOH, 16.2,-; $EtCO_2H$,33,-; $PrCO_2H$, 32, -; $BuCO_2H$, 27,-; $C_8H_{13}CO_2H$, 24.5, -; $C_{17}H_{35}CO_2H$, 10.7, -; azelaic acid, 0, -; $AcCH_2$, 13.8, 2; $AcCH_2Bz$, 8.3, 2; $AcCH_2CO_2Et$, 12.6, 1.6; $BzCH_2CO_2Et$, 7.0, 2.0; $O:C(CH_2CO_2Et)_2$, 11.9, 1; o-$HOC_6H_4CO_2Me$, 8.6, 2; m-$HOC_6H_4CO_2Me$, 1.6, 11; p-$HOC_6H_4CO_2Me$, 1.0,18; PhOH, 5.5, 5; p-$C_6H_4(OH)_2$, 3.5, 7; butyroin, 12.3, 1.9; laurcin, 6.8, 1.1; olecin, 6.9, 1.5; BzCHOHPh, 20.3, 0.6; furoin, 3.6, 2.5; $(CHOHCO_2Et)_2$, 13.5, 1; $MeCHOHCH_2CHO$, 1.6, 19; $Me_2COHCH_2Ac$, 2.5, 9; $MeCOCOMe$, 0, -; $AcCO_2Et$, 2.0, 12; $AcCH_2CH_2Ac$, 2.5, 10; $Me_2CO$, 0,-; MeCOEt, 0, 2; $Me_2C:CHAc$, 2, 13; $Me_2C:CHCOCH:CMe_2$, 1.1, 17; PhCOMe, 3.4, 6.8; $Ph_2CO$, 0, -; PrCHO, 0, -; MeCH: CHCHO, 0, -; $MeCH:CHCO_2Et$, 0, -. The Al no. of $HCO_2H$, AcOH, $EtCO_2H$, and azelaic acid was low because the Al salts were difficultly sol. in $C_6H_6$. Most of the compds. which reacted with Al in a ratio of about 3 g. mols. to 1 g. atom were comparatively strongly acidic, e.g. 1,3-diketones and 1,3-ketonic esters, which owe their acid character to the enol form. 1,2-Ketols and hydroxy esters also had high Al nos. Oleic acid and oleyl alc. changed in Al no. and acid no., resp., on exposure to oxidation. Oleic acid, blown 5 hrs. at 20°, 13.5, -; blown 5 hrs. at 30° exposed to ultraviolet light, 14.5, -; exposed 1 yr., 16.0, -; blown 5 hrs. at 200°, with 0.02% Mn, 13.6, 185; blown 5 hrs. at 200°, with 10% Al borings, 17.8, 174. Oleyl alc., 1.5, 0.5; exposed 4 days, 2, 0.5; 8 days, 3.5, 0.5; blown 10 hrs. at 100°, 2.4, 1.8; blown 10 hrs. with 0.2% Mn, 3.8, 26.5. The autoxidation of linseed oil under various conditions was followed by changes in Al no., acid no., peroxide no. (Marks and Morrell, C.A. 23, 5439 (1929)), viscosity, O absorption, changes in wt. of films, and loss of volatile acids. Conditions were autoxidation at 20°, at 38% relative humidity, exposure to ultraviolet light, and blowing with air at 70° and 85°. The results are presented in 9 graphs. A high Al no. showed increase in ketolic oxyns which were the precursors of subsequent oxidative degradation. Al isobutylate, added from time to time to linseed oil, during the course of blowing at 70°, stabilized the ketolic oxyns as Al complexes and caused increase in Al no. with time to be nearly linear. A soln. of such an "aluminated" oil (contg. 3.3% Al) gave a film which became hard, elastic, and non-adhesive and decreased in water absorption to 0%, compared with 6.8% for the original linseed oil.--From Chemical Abstracts.

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| 424-458<br>PB L 52015 | FURKERT, H. (Sächsische Zellwolle A. G., Plauen). New ways of conserving raw materials in connection with the purification of waste gases and liquors in the production of cellulose wool. In German. | 3.00 |

This paper deals with methods of recovering carbon disulfide from the fibers; utilizing the hydrogen sulfide of the waste gases by processing it to sulfuric acid; of recovering the caustic soda of the waste liquor developing in dialysis, and to save sulfuric acid and obtain sodium sulfate, which are usually lost in the precipitation of the fibers.

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|---|---|---|
| 459-476<br>PB L 52015 | WAGNER, H. and BÖHUISCH, A. W. (Forschungsinstitut für Farbentechnik, Stuttgart). The influence of the physicochemical properties of pigments on anticorrosion films. In German. | 2.00 |

The following factors were studied: Arrangement of the pigments in the film, properties of the film (such as porosity, contact between pigment and base layer, and the effect of water), introduction of fillers into the pigments, preparation of "kern pigmenten," protection of the pigments against swelling by an organic covering layer, and improvement of the film or of the whole structure.

PB L 52022. GERMANY. REICHSAMT FÜR WIRTSCHAFTSAUSBAU. Chemische Berichte Jan 1943. Meeting of the cooperative group supplying the glass industry with alkali, May 3, 1942. Jan 1943. 49 p. Price: Microfilm-$1.00 - Photostat-$4.00

Abstracts of the papers follow. The papers will be available in photostat form. Please include PB and page numbers when ordering individual items. In German.

| Pages | Title | Price |
|---|---|---|
| 4 | Instructions. In German. | $1.00 |

PB L 52022 This page contains administrative rules and instructions for the meetings of the cooperative groups to facilitate research for the "four year plan." These meetings were sponsored by the "Reichsamt für Wirtschaftsausbau Berlin" (Reich office for economic development).

5-6 PB L 52022 List of participants. In German. 1.00
The names of the representatives of various governmental agencies, industrial enterprises, universities, etc. who were present at the meetings are listed.

7-12 PB L 52022 RÜHL, H. (Wirtschaftsgruppe Glasindustrie, Berlin). Alkali containing materials. In German. 1.00
This is a statistical review on raw materials (natural and chemical) necessary for the German glass industry, on the consumption of alkali for the production of glass based on $Na_2O$, and on prices of the materials. The figures given cover the years 1936, 1939, and the first quarter of 1943.

13-19 PB L 52022 PIPER, E. (Röchlingsche Eisen-U. Stahlwerke, Volklingen). Collection and working up of soda slags. In German. 1.00
Wartime scarcity of certain vital minor constituents in steel making, especially for desulfurizing, brought about the use of $Na_2CO_3$, in Germany for this purpose. In Fe smelting considerable losses result owing to effervescence if there is not thorough mixing of the soda and melt. Fused soda is best, and better results are obtained in desulfurizing if the soda is added during the pouring process. The desulfurization is attributable to the formation of $Na_2S$, which is insol. in the molten Fe and which is stable at temps. over 1400°. A large part of the alkali melt may be lost for desulfurization through minor reactions with the brick linings or the residual $SiO_2$ in the pig Fe. As the soda slag has a relatively low d. and increases in fluidity with increased S content, there is difficulty in sepn. from the melt. There may be considerable loss of Fe or contamination of the Fe with slag. To eliminate these difficulties, a device known as a "coffee-pot" was introduced. First, the soda was melted down in a rotary kiln, carried by a special conveyor to the blast furnace, and added to the pig Fe during pouring. The pig Fe with the soda slag floating thereon was poured through a siphon, the "coffee-pot," a partitioned vessel with a tap for pig Fe and a pour-off for the lighter slag. Both spouts were so arranged that a slag cover of about 400 mm forms on the pig Fe. The deslagged Fe flows through the discharge opening while the slag flows from the higher opening. Owing to a washing effect in the Fe passing through the slag cover, there is a further lowering of the S content. A similar device, the "foxpan," was also used. Here the soda slag can be used repeatedly for desulfurizing. An important factor in the use of soda is the available Mn content. With an initial S content of 0.1% the S is lowered to about 0.03% with an addition of 5 kg. of soda per ton of Fe. The slag produced at Völklingen during 1941-42 averaged $SiO_2$ 31.75, Fe 4.03, Mn 2.60, $Al_2O_3$ 5.49, CaO 7.95, MgO 1.22; R 0.71, S 8.11, and total alkali 31.37%. To recover Fe in the slag, the slag must be crushed immediately after cooling and solidifying, and treated magnetically. Uses proposed for soda slag are: prepn. of various Na salts such as silicates, or phosphates; decompn. of raw phosphates; manuf. of Thomas slag, and production of hollow glassware. Soda slag is hygroscopic and if stored in the open air the sulfide oxidizes. The remaining mass cannot be ground. Fresh slag can be ground to a grain size of from below 0.2 mm. or 50% below 0.06 mm. The ground slag has a density of 1.05-1.15. If sulfide interferes in glass manuf., it can be completely removed from the slag by heating rapidly in a reducing atm. with the addn. of 10% sand. Or the sulfide can be oxidized to sulfate by an oxidizing roast at 500-600°, followed by melting down at 1000° to the $SiO_2$ slag giving a watery layer of about 95% $Na_2SO_4$.--From Chemical Abstracts.

20-24 PB L 52022 DIETZEL, A. (Kaiser-Wilhelm-Institut für Silikatforschung, Berlin-Dahlem). Possibilities of substitution for soda in the glass industry. In German. 1.00
To conserve soda ($Na_2CO_3$), it is proposed to either maintain the original soda content or to lower it by the addn. of other fluxes. To maintain the original Na content there can be substituted: (a) $Na_2SO_4$ + C, which can be used extensively for plate, bottle, window, and tumbler glasses, in amts. of 1 $Na_2SO_4$ to 3.5 soda by wt. For higher freedom from color the sulfate should not exceed 1%. (b) Rock salt, which is reacted with steam and sand in a shaft furnace to form a waterglass, contg. a few % of Cl. The method is very uneconomical. (c) Black Liquor, a trade residue contg. $Na_2CO_3$ 47, org. Na compds. 11, C 39, $Fe_2O_3$ 0.1, MnO 0.05, $K_2O$ 0.35, $SO_3$ 0.3%, plus small amts. of $SiO_2$, $Al_2O_3$, CaO, MgO, Cl, and $P_2O_5$. After baking, the org. Na compds. yield more $Na_2CO_3$, making available about 60% $Na_2CO_3$ and 40% C. The high C can be lowered by oxidizing with sulfate. Cost of black liquor is relatively low and clear or colored glasses can be made. (d) Soda slag contg. $SiO_2$ 35, $Al_2O_3$ 3-6, $Fe_2O_3$ 2-7, $TiO_2$ 1-3, CaO 6-8, MgO 1-3, MnO 4-11, $P_2O_5$ 0.6-1, S 4-8, and $Na_2O$ 20-35%. Metallic Fe is removed by magnetic sepn., sulfide by oxidation. A typical glass batch contains sand 66, lime 18, sulfate 21, and soda slag 24 parts by wt., giving a glass of 74% $SiO_2$, 12% CaO, 14% $Na_2O$ in which 1/3 of the $Na_2O$ entered as slag. Some of the lime may be introduced as gypsum. (e) Alkali-contg. rocks, such as feldspar, pegmatite, phonolite, etc., whose use is limited. Saving of soda by reduction of alkali content can be made by using: (1) Fluorspar in amts. corresponding to addns. of 1-3% $CaF_2$, resulting in alkali saving of 0.5-1%. (2) Mn oxide for special glasses. (3) $TiO_2$, which causes color streaks in glasses. (4) Various melting accelerators,

which only lower the alkali content a trifle. For color-free glasses there appear no worthwhile substitutes for soda.--From Chemical Abstracts.

25-27
PB L 52022 BROHMEYER (I. G. Farbenindustrie Wolfen, Stickstoff-Abteilung). "Distilled black liquor" for glass manufacturing. In German. 1.00

The double properties of alkali carrier and reducing agent are found in "Distd. black liquor," a trade waste of the cellulose pulp industry. In the alk. decompn. of cellulose-contg. matter NaOH or $Na_2SO_4$ is used. When $Na_2SO_4$ is used, $Na_2S$ forms and causes the cellulose decompn. The boiling lye is regenerated and recirculated, the waste liquor therefrom being designated "black liquor." In the $HNO_3$ decompn. process, where soda lye is used in a stage of the treatment, the waste liquor (I) is also called "black liquor," but it differs from the black liquor of the soda process. (I) contains all matter existing in the wood in decompd. form, in addn. to cellulose as well as broken-down chemicals and decompn. products of the $HNO_3$ from the acid and alk. treatment. The cellulose alone remains unchanged in the process. (I) is boiled down as it comes from the cookers, and swelled up in a special app. at a temp. of 400-460°, and simultaneously granulated. The volatile org. matter distills off and the $CO_2$ formed changes all Na compds. into $Na_2CO_3$ except about 1% that remains unchanged as Na oxalate. This granulated product, "carbonized black liquor" (II), consists of $Na_2CO_3$ 56-57, Na oxalate 1, C about 40, and inorg. impurities 1-1.5%. The d. of (II) is less than that of granulated soda. Uses for (II) are: decompn. agent for rock phosphate permitting lower furnace temps.; desulfurizer and reducing agent in Fe and steel industry; source of soda and reducing C in manuf. of stained, bottle, sheet, brown, and other glasses.--From Chemical Abstracts.

28-33
PB L 52022 FURKERT, H. (Sächsische Zellwolle A. G., Plauen, Germany). Sodium sulfate production in the manufacture of staple fiber. In German. 1.00

$Na_2SO_4$ from viscose production is recovered from the pptg. bath as Glauber's salt (I) by evapn. and vacuum crystn. Excess $H_2O$ is removed from (I) by centrifuges whose screens are made of a chem.- and abrasion-resistant alloy, Vinidur. For most purposes, (I) must be calcined, giving a wt. reduction of over 50%. The free acid in (I) is neutralized and (I) is then calcined by a "wet" process to prevent decompn. On the basis of 100 tons of staple fiber per day, German production of (I) by crystn. was 104-156 tons, and of extd. $Na_2SO_4$ 45-68 tons. Coal consumption for crystn. equals 1.2 tons per ton of fiber. For calcining, coal requirements are 0.5 ton per ton $Na_2SO_4$ with 75% steam utilization and 1.9 tons per ton $Na_2SO_4$ without steam utilization. The artificial fiber industry is a prime producer of (I).--From Chemical Abstracts.

34-36
PB L 52022 FREYTAG, H. (Deutsche Glastechnische Gesellschaft E. V., Frankfurt, Germany). Rock utilization in the glass industry. In German. 1.00

A bibliographical survey of the literature, chiefly Soviet Russian, on the utilization of rocks as a source of alkali. 33 references.--From Chemical Abstracts, v. 41, p. 4626, 1947.

37-38
PB L 52022 ENDELL, K. (Technische Hochschule, Berlin). Visualization of the sintering and melting of glass mixtures, soda, and soda slags in the electron microscope. In German. 1.00

This paper is a reference to the original publications. Four pictures are included.

39-51
PB L 52022 Discussion. In German. 1.00

The various problems arising during the discussion of the above lectures and the critical remarks and the supplementary suggestions made are summarized.

PB L 79193. HASS, A. Subject index of documents microfilmed at I.G. Farbenindustrie A.G., Knapsack and I.G. Farbenindustrie A.G., Zweckel. (FIAT Final Rept 1200). Jun 1947. 7 p. Price: Mimeo-$0.25

This is a FIAT report presenting a subject index of documents microfilmed at I. G. Farbenindustrie A. G. für Stickstoffdünger, Knapsack, and at I. G. Farbenindustrie A. G., Zweckel. The documents deal chiefly with the production of calcium carbide and its derivatives, and ethylene oxide and its derivatives.

PB L 17690. I. G. FARBENINDUSTRIE A. G. Reports of meetings of the Plastics Technical Commission (Kuteko), 1935-1944, and of the Detergents Raw Material (Waro) Group Conferences 1941-1944. (FIAT Microfilm Reel C 110, Frames 1-619, and 72 unnumbered frames) 1935-1944. 681 f. Price: Microfilm-$6.00 - Enlargement print-$68.50

Reel C 110 contains reports which were presented at meetings of the Plastics Technical Commission (Kuteko) and of the Detergents Raw Material Group (Waro) of the I. G. Farbenindustrie. The reports deal with plastic adhesives, ion-exchange resins, statistics on plastics, electrical cable-insulating materials, thermal and sound insulating materials, synthetic rubber, plastic leather substitutes, plastics impregnated paper containers, plastic emulsions and dispersions, plastic packaging materials, the Oxo-synthesis, synthetic fatty acids, synthetic detergents, etc. An index to the individual reports (PB 38119) and abstracts of the individual reports (PB 33524-PB 33641) are given below. In German.

PB L 38119. OFFICE OF TECHNICAL SERVICES, BIBLIOGRAPHY SECTION. Report of meetings of the Plastics Technical Commission (Kuteko), 1935-1944, and of the Detergents Raw Material Group (Waro) Conferences, 1941-1944, Index. (Index to FIAT Microfilm Reel C 110, PB 17690). Feb 1946. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00

This index lists the German and English titles of the reports contained in Microfilm Reel C 110, PB 17690 (see above) together with their PB numbers and the frame numbers on which each appears.

PB L 33525. MENGER. Report on adhesives given at the plastics division meeting in Frankfurt on Main on January 17, 1936. (I. G. Farbenindustrie, Uerdingen-Kuteko report). (Frames 1-9 of FIAT Microfilm Reel C 110). Jan 1936. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00

This report reviews the production of adhesives in Uerdingen from 1922 to 1936 mainly from the business angle. The various

uses are outlined, and calculations given. The prospective importance of polyvinyl chloride products is emphasized. In German.

PB L 33528. GRIESSBACH. On the ion-exchange properties of synthetic resins. (I. G. Farbenindustrie, Wolfen. Kuteko report). (Frames 10-15 of FIAT Microfilm Reel C 110). Jan 1936. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
The results of Adams and Holmes (published in Industrial Chemist, 1934, and elsewhere) were confirmed. The products of condensation of polyphenols with formaldehyde have anion exchange properties, while those from aromatic or hydroaromatic amines with formaldehyde have cation exchange properties. Work in this field was in its beginning. In German.

PB L 33526. KLEBER. The legal situation for "Oppanol B." (I.G. Farbenindustrie, Ludwigshafen. Kuteko report). (Enlargement Print of FIAT Microfilm Reel C 110). (Follows frame 15). (3 unnumbered frames). Jan 1936. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report deals with the situation for production and sale of "Oppanol B" in view of the agreement between I. G. and Standard Oil of N. J. In German.

PB L 33527. KIEBER. Patent situation for "PCU" materials. (I.G. Farbenindustrie, Ludwigshafen. Kuteko report). (Enlargement Print of FIAT Microfilm Reel C 110). (Follows frame 15) (15 unnumbered frames). Jan 1936. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report reviews the situation in view of existing patents, mainly U. S. and French. A list of all these patents is attached. In German.

PB L 33524. KESSELER. Minutes of the 5th meeting of the plastics division on Jan 17, 1936, in Frankfurt on Main. (I.G. Farbenindustrie. Kuteko report). (Enlargement Print of Part of FIAT Microfilm Reel C 110) (Follows frame 15) (7 unnumbered frames). Jan 1936. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
This meeting dealt exclusively with business problems, such as sales in Germany and other countries, patents, contracts with firms in U. S., France and England, etc. Four reports given during the meeting are contained in PB 33525, 33528, 33526, and 33527 abstracted above. In German.

PB L 33529. ROSENBERG. Minutes of the 6th meeting of the plastics division on March 12, 1936 in Frankfurt on Main. (I. G. Farbenindustrie. Kuteko report). (Enlargement Print of FIAT Microfilm Reel C 110).(Follows frame 15) (8unnumbered frames). Mar 1936. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
The meeting started with a report on the use of "Igelits" for cable insulation (see PB 33530 abstracted below. In addition problems of business, industrial organization, patents,etc.,were discussed. In German.

PB L 33530. KOLLEK. Comprehensive report on results to date in the application of "Igelit" in the field of cable insulation. (I.G. Farbenindustrie, Ludwigshafen. Kuteko report). (Enlargement Print of FIAT Microfilm Reel C 110). (Follows frame 15) (4 unnumbered frames). Mar 1936. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a report on negotiations with 24 German cable firms. The opinions expressed by the firms are reported and discussed. Practical tests of the new cables had not yet been made. In German.

PB L 33531. I. G. FARBENINDUSTRIE, A. G., UERDINGEN. Report on research results to date on polyvinyl ethers, given at the plastics division meeting in Frankfurt on June 5, 1936. (Kuteko report). (Frames 16-21 of FIAT Microfilm Reel C 110). Jun 1936. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
The adhesives produced at the time are described and their uses outlined. Improvements yet to be achieved are mentioned. In German.

PB L 33532. KRAEMER, M. H. and HÖHNER. Minutes of the first meeting of the experts commission for plastics and molded materials of the VDI on December 5, 1935 in the Grashof room of the Engineer Building in Berlin. (I. G. Farbenindustrie. Kuteko report). (Enlargement Print of FIAT Microfilm Reel C 110). (Follows frame 21) (13 unnumbered frames). Dec 1935. 13 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a report of the initial meeting of a committee in which several German government departments, the German army and navy, scientific and technical institutions, and the important producers were represented. The purpose was coordination of production, particularly in view of scarcities. The program is outlined. This document is marked "Anlage No. 2" (enclosure No. 2) probably to PB 33529 above. In German.

PB L 33533. KRAEMER, M. H. Minutes of the first meeting of the advisory committee of the expert commission for plastics and molded materials at the VDI on February 7, 1936, in the Grasshof room of the Engineer Building in Berlin. (I.G. Farbenindustrie. Kuteko report). (Enlargement Print of FIAT Microfilm Reel C 110). (Follows frame 21) (9 unnumbered frames). Feb 1936. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
This meeting was concerned with organization and planning in line with the programs as outlined in PB 33532 abstracted above. This document is marked "Anlage No. 3" (enclosure No. 3), probably to PB 33529 above. In German.

PB L 33534. I. G. FARBENINDUSTRIE, A. G., OPPAU. "Kaurit" foam mass for insulation purposes. (Kuteko report). (Frames 22-26 of FIAT Microfilm Reel C 110). Oct 1936. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
The foam, for insulation against heat and cold and against noise, is prepared from "Nekal BXS" and "Kaurit." A solution of "Nekal BXS" in water is filled into a container fitted with a stirring device, to obtain a fine foam. Then the "Kaurit" is added, and stirring continued. The foam is filled into molds of any shape. The specific weight of the dried foam is between .01 and .1, depending on the concentration of the solutions. In addition to its low heat conducting and high noise absorbing qualities, the material is non-inflammable and extremely resistant to water. See also PB 40896 abstracted in vol. 3, p. 634 of this Bibliography. In German.

PB L 33535. ROELIG, H. Technical properties and uses of Buna. (I.G. Farbenindustrie, Leverkusen. Kuteko report). (Frames 27-32 of FIAT Microfilm Reel C 110). Oct 1936. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a tabulation of condensed results of tests concerning the mechanical and electrical properties of Buna, and its use as machine parts and in cables. In German.

PB L 33536. I. G. FARBENINDUSTRIE A. G., LUDWIGSHAFEN. Manufacture of leather substitutes. (Kuteko report). (Frames 33-37 of FIAT Microfilm Reel C 110). Mar 1937. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report deals with the preparation of leather substitutes, using domestic raw materials as binding agents, such as polyvinyl compounds, which can be polymerized in batch or in emulsion processes to give a solid product or an emulsion. The methods of producing the two types of products are outlined separately, and the characteristics of the products are described. In German.

PB L 33537. GENSEL. The Trubenizing of wearing apparel. (I.G. Farbenindustrie, Ludwigshafen. Kuteko report). (Frames 38-41 of FIAT Microfilm Reel C 110). Mar 1937. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

There are essentially two processes of Trubenizing, i.e. permanently stiffening cuffs and collors without the use of starch. The one is carried out by means of acetyl cellulose, the other by means of thermoplastic vinyl polymers. Both procedures are described and several special methods based on these two procedures are discussed and evaluated. In German.

PB L 33538. RITTER. Aniline resin and aniline resin paper pulp molding materials. (I. G. Farbenindustrie, Ludwigshafen. Kuteko report). (Frame 42 of FIAT Microfilm Reel C 110). Mar 1937. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
A brief report is given of plant experiments on the production of aniline resin from aniline and formaldehyde and aniline resin paper pulp molding materials. In German.

PB L 33539. ESCALES. Cable developments. (I.G. Farbenindustrie, Ludwigshafen. Kuteko report). (Frames 43-54 of FIAT Microfilm Reel C 110). Mar 1937. 14 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report essentially concerns the status at the time of the manufacture of synthetic insulation for cables. The equipment for the processing of "Igelit" (injection machine, rolls, shearing apparatus), the range of application of "MP", "PCU" and mixtures thereof, and the qualities and range of use of the various final products are discussed. The suitability of "Oppanol" as starting product for cables is discussed. In German.

PB L 33540. KOLLEK. Kuteko meeting Mar 7, 1939. (I. G. Farbenindustrie. Kuteko report) (Frames 55-69 of FIAT Microfilm Reel C 110) Mar 1939. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00
Among the subjects discussed at this meeting were the progress and status in the field of the following substances: 1. "Igelit" (a) "Igelit" without plasticizers, and materials prepared from it such as "Astralon", "Igelit" pressed articles, (b) "Igelit," containing plasticizers such as cable materials and "PCU" pastes. 2. "Oppanols"; 3. Safety glass aids; 4. Polystyrenes; 5. "Luvican"; 6. "Iganil"; 7. Artificial resin "FIH"; 8. Emulsions; 9. Substances for linoleum components. The release of new preparations is reported. In German.

PB L 33541. I. G. FARBENINDUSTRIE A. G. Twelfth meeting of the Plastics Technical Commission (Kuteko) on July 31, 1939. (Kuteko report). (Frames 70-87 of FIAT Microfilm Reel C 110). Jul 1939. 18 p. Price: Microfilm-$1.00 - Photostat-$2.00
At this meeting the following subjects were reported and discussed. A synopsis was given of the development of the various types of "Igelit," listing their names and characteristics. Attention is called to competitive preparations such as "Koroseal," "Vinylites," "Vinnol HH," which are compared with each other and with the various types of "Igelit." The release of a number of superpolyamide products is reported. The present situation in the field of injection molded materials, in the works on polyvinyl acetals, and in the research on casting and card board impregnation is reviewed. Page 1 is missing. In German.

PB L 33542. DROSTE. Present state of research on the use of emulsions in the "Myco-process." (I.G. Farbenindustrie. Kuteko report). (Frames 88-90 of FIAT Microfilm Reel C 110). Jul 1939. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
A French pilot plant installation (probably for the manufacture of paper containers according to the "Myco-process") was tested using various emulsions to impregnate the paper pulp. In German.

PB L 33543. I. G. FARBENINDUSTRIE A. G. Thirteenth meeting of the Plastics Technical Commission (Kuteko) on Dec 13, 1940. (Kuteko report). (Frames 91-100A of FIAT Microfilm Reel C 110). Dec 1940. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00
These minutes contain reports and discussions concerning the status in the field of "Igelits" for soft plastics. The experiences with the types of "Igelit," particularly "Vinnol HH" and "Igelit PCU," and their suitability for the manufacture of cable insulation materials and "PCU" pastes are discussed. The other main object of interest is the recent development of the plastics dispersions. Also a list of new products recommended for release is presented. In German.

PB L 33544. ILOFF. Status of production of "Igelit PCU" for materials containing plasticizers. (I.G. Farbenindustrie. Kuteko report). (Frames 101-105 of FIAT Microfilm Reel C 110). Dec 1940. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report contains a procedure and testing data on an extremely high polymeric type of "Igelit PCU." The only advantage of this product proved to lie in its tensile strength, while its resistance to cold was not superior to that of the lower polymeric types. The following points were against the large scale manufacture of this high polymer: the low yield; the difficulty in achieving a high degree of polymerization with emulsifying agents other than "amphoseife 18"; the high milling temperature and the higher cost. In German.

PB L 33545. BERGER. The situation in the field of plasticized "Igelits." (I.G. Farbenindustrie. Kuteko Report). (Frames 106-113 of FIAT Microfilm Reel C 110). Dec 1940. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
The influence of the polymerization and of the plasticizer on the electrical properties of "Igelits" is briefly discussed. The mechanical properties are dealt with in five tables, showing; (1) "K" value, "M" number, deformation, cold-resistance, water absorption, and ash content, of different materials. (2) Relationship among deformation, "K" value, and "M" number. (3) Cold resistance of Igelit samples. (4) Dependence of tensile strength on deformation. (5) Water absorption of Igelit samples before and after washing. The remainder of the report deals with commercial problems such as relationships with competitors. In German.

PB L 33546. WÜRSTLIN. Conductivity of plasticized "Igelit" materials. (I. G. Farbenindustrie. Kuteko report). (Frames 114-117 of FIAT Microfilm Reel C 110). Dec 1940. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
The influence of various plasticizers on the conductivity of plasticized polyvinyl chlorides is discussed in connection with a table giving the resistance values of 11 plasticizers and of Igelit samples plasticized with each of them. The specific resistance of plasticized Igelit bears a relationship, not with the specific resistance of the plasticizer, but with the degree of viscosity. Rising temperature decreases the specific resistance as it decreases the viscosity. In German.

PB L 33547. GRASSL. "Igelit PCU" pastes. (I.G. Farbenindustrie. Kuteko report). (Frames 118-121 of FIAT Microfilm Reel C 110). Dec 1940. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
Desirable properties of the pastes are listed. Difficulties in their production are mentioned, which had not yet been overcome. A completely satisfactory plasticizer had not yet been found. The different pastes produced at the time and their uses are listed. The pastes were expected to become important in the future. In German.

PB L 33548. KLING. "Igelit PCU" pastes. (I. G. Farbenindustrie. Kuteko report). (Frames 122-133 of FIAT Microfilm Reel C 110). Dec 1940. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00
These pastes are dispersions of a powdered "Igelit" in a plasticizer. The desirable properties of both components are discussed in detail. The differences among the products from different plants are described. The properties of the

films obtained are given in graphs and tables, and discussed. Investigations of the reasons for unsatisfactory results with "paste M special" are discussed; they were not yet completed. Also discussed are preliminary results of research on the effect of binding agents. In German.

PB L 33549. CRAEMER. The status of development in the field of dispersions of plastics. (I. G. Farbenindustrie. Kuteko report). (Frames 134-148 of FIAT Microfilm Reel C 110). Dec 1940. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report begins with an historical review of the development during the preceding 12-15 years. Then the properties of the dispersions are discussed with the aid of two tables. The various fields of application are listed. Suggestions for desirable improvements are made. In German.

PB L 33550. KOLLEK. Note to the 14th Kuteko meeting: Use of Igamides. (I. G. Farbenindustrie. Kuteko report). (Frames 149-154 of FIAT Microfilm Reel C 110). Jun 1941. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
Production figures, uses, properties, and details on the production of various "Igamides" are summarized in this document, most of which is very difficultly legible. Reproductions will probably be very poor. In German.

PB L 33551. BECK, HANS. The significance of the packing industry for the plastics field. (I. G. Farbenindustrie. Kuteko report). (Frames 155-163 of FIAT Microfilm Reel C 110). Dec 1941. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
Statistical data on various kinds of packing materials are presented and the possibilities of application and development of suitable I. G. Farben products are discussed. Reproduction of some of the pages of this document will probably be poor. In German.

PB L 33552. DANIELSKI, STEFANIE. Quality requirements of plastics for packaging purposes. (I.G. Farbenindustrie. Kuteko report). (Frames 164-178 of FIAT Microfilm Reel C 110). Dec 1941. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00
Theoretical considerations with regard to physical and chemical properties of the materials used are discussed and the testing results for various I. G. Farben plastics described. In German.

PB L 33553. HIFFLINGER, KURT. The use of plastics in the packaging industry up to now, and future prospects. (I.G. Farbenindustrie. Kuteko Report). (Frames 179-189 of FIAT Microfilm Reel C 110). Dec 1941. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00
Properties and details of production for the following materials are discussed: Celluloid and "cellon," molding compounds, "Oppanol B" dispersions, "Igelit PCU"-paste, "Cohaerit," and various films. In German.

PB L 33554. DAMMER. Flat boxes for packaging tablets. (I. G. Farbenindustrie. Kuteko report). (Frames 190-196 of FIAT Microfilm Reel C 110). Dec 1941. 7 p.
Price: Microfilm-$1.00 - Photostat-$1.00
The process involved in the production of the above boxes are described and illustrated in four pictures. The material used is chiefly polyvinyl chloride film. In German.

PB L 33555. DAMMER. Status of the "Lyco" process. (I. G. Farbenindustrie. Kuteko report). (Frames 197-203 of FIAT Microfilm Reel C 110). Dec 1941. 7 p.
Price: Microfilm-$1.00 - Photostat-$1.00
The installation of a "Lyco" plant, production figures and price calculations are presented. Seven pictures are attached. The text is very difficultly legible. In German.

PB L 33556. WEINBRENNER. Experiences with "Igelit" treated jute as packaging material for Buna. (I. G. Farbenindustrie. Kuteko report). (Frames 204-207 of FIAT Microfilm Reel C 110). Dec 1941. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
This document is chiefly a discussion whether it is profitable to replace paper by jute thus treated. Although a jute cover may be used 20 to 50 time, cost calculation favors paper. The legibility is very poor. In German.

PB L 33557. CRAEMER, KARL. Significance and development of the adhesive industry. (I. G. Farbenindustrie. Kuteko report). (Frames 208-212 of FIAT Microfilm Reel C 110). Dec 1941. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
The importance of adhesives for the manufacture of various products is emphasized. Production figures are given. Then apparently the history of synthetic adhesives is related. This part of the document is, however, very difficultly legible. In German.

PB L 33558. ALBERT, PETZ. Plastics in the adhesive industry. (I. G. Farbenindustrie. Kuteko report). (Frames 213-221 of FIAT Microfilm Reel C 110). Dec 1941. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
A detailed review of the first synthetic adhesives is presented. Methods of testings of these substances are reported with specifications of the elements examined. A great number of pertinent preparations are listed, described and evaluated. This report may reproduce poorly. In German.

PB L 33559. GRASSL. Igelit PC as adhesive. (I. G. Farbenindustrie. Kuteko report). (Frames 222-223 of FIAT Microfilm Reel C 110). Dec 1941. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
The preparation and uses of various mixtures with the above compound are described in this document. Most of the report is difficultly legible and will reproduce poorly. In German.

PB L 33560. DANIEL. Adhesives: "Klebemittel I and II, St III and IV". (I.G. Farbenindustrie. Kuteko report). (Frames 224-227 of FIAT Microfilm Reel C 110). Dec 1941. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
Raw materials and machinery necessary for the production of the above compounds are described. In German.

PB L 33561. CRAEMER. Minutes of the Kuteko subcommittee "Desmophen-Desmodur" meeting on October 12, 1943 at Leverkusen. (I. G. Farbenindustrie. Kuteko report). (Frames 228-238 of FIAT Microfilm Reel C 110). Oct 1943. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00
This meeting reviews work and progress in the field of "Desmophen-Desmodur." The following subjects are discussed in particular: "Desmopher-Desmoden" raw materials for the production of adhesives and cements; the preparation of coatings and artificial leather from "Desmophen-Desmodur"; the use of this substance for paper and tissue impregnations; "Desmophen-Desmodur" foaming agents. In German.

PB L 33562. BECK. Minutes of the third meeting of the Kuteko subcommittee: Physical examination and evaluation of plastics, June 23, 1943 in Ludwigshafen. (I.G. Farbenindustrie. Kuteko report). (Frames 239-242 of FIAT Microfilm Reel C 110). Aug 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
These are minutes of the Third Session of the Kuteko subcommittee I of June 23, 1943 (Ludwigshafen, Berlin). The object of the meeting was to discuss the progress in the field of the new "Cellit" injection molding materials. In German.

PB L 33563. LÖFFLER. Minutes of the seventh meeting of Kuteko Subcommittee II (38th Kuteko meeting) on May 4,

1944, in Schkopau. "Development of plastics based on vinylchloride." (I.G. Farbenindustrie. Kuteko report). (Frames 243-256 of FIAT Microfilm Reel C 110). Jun 1944. 14 p. Price: Microfilm-$1.00 - Photostat-$1.00
A history of the development of "Dioxid" is given. U. S. methods were followed. "Igelit PCU" production is discussed in detail, including the differences in quality in the products of the different plants. The effect of different stabilizers is compared. Other points discussed were the utilization of scrap material, polymers as shoe sole materials, adhesives for shoe soles, color fast materials. In German.

PB L 33564. FRIEDRICH. Experiences in processing "Igelit PCU" to soft "Mipolam." (I. G. Farbenindustrie. Kuteko report). (Frames 257-259 of FIAT Microfilm Reel C 110). May 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Experiences with "PCU," from Bitterfeld, Schkopau and Ludwigshafen, and their behavior in different mixing devices are related. In German.

PB L 33565. LÖFFLER. The relations between K-value, M-number and deformation, and the definition of the Schkopau "Igelit PCU" brands GK, G and GH. (I.G. Farbenindustrie. Kuteko report). (Frames 260-270 of FIAT Microfilm Reel C 110). May 1944. 11 p. Price: Microfilm-$1.00- Photostat-$1.00
It is explained that all three values have to be considered in order to gauge the effect of different emulsifiers. (M-number appears to be thenumber of molecules in the chain). The investigation was necessary because of the war scarcity of "amphoseife" and the search for an acceptable substitute. Results are given in a number of tables and graphs. Beyond this immediate purpose, a more exact classification of the products was hoped to result from this research. Legibility is poor. In German.

PB L 33566. KENTSCHER, F. Brightening agent for "Igelit." (I.G. Farbenindustrie. Kuteko report). (Frame 271 of FIAT Microfilm Reel C 110). May 1944. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
Diphenylthiourea ("Stabilizer C") was best at low alkalinity, up to .3%. If more alkali is used, phenylindole ("Stabilizer I) proved somewhat superior. In German.

PB L 33567. HIRT. Minutes of the sixth meeting of Kuteko subcommittee II (34th Kuteko meeting) on Feb. 10, 1944, in Frankfort on the Main. "Development of plastics based on vinylchloride." (I. G. Farbenindustrie. Kuteko report). (Frames 272-289 of FIAT Microfilm Reel C 110). Feb 1944. 20 p. Price: Microfilm-$1.00 - Photostat-$2.00
The main purpose of this meeting was the classification of the different types of "Igelit." This is discussed in detail, and the different types with their composition and properties are listed in four tables. Also discussed were experiences with stabiliser I (2-phenyl-indol), production planning, and problems of competition and patents. In German.

PB L 33568. CRAEMER. Minutes of the fourth meeting of subcommittee III of "Kuteko" (35th Kuteko meeting) in Ludwigshafen on Rhein, on February 17, 1944, "Development of aqueous plastic dispersions." (I. G. Farbenindustrie. Kuteko report). (Frames 290-301 of FIAT Microfilm Reel C 110). Feb 1944. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00
This document consists of abstracts of the reports given which appear in their entirety under PB numbers 33569-33573 below, and of the discussion which followed the lectures. In German.

PB L 33569. CRAEMER, KARL. Report on the present situation in the field of leather fiber and leather piece materials. (I. G. Farbenindustrie. Kuteko report). (Frames 302-306 of FIAT Microfilm Reel C 110). Feb 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
Progress is claimed, while the lag in production is attributed to a bottleneck in binding agents. Suggestions are made as to how to overcome the shortage. Also discussed are testing methods and government regulations. A table gives the results of tests. In German.

PB L 33570. SPIECKER, W. Recent findings in the field of Mowilith-dispersions as binders for fibrous leather materials. (I. G. Farbenindustrie. Kuteko report). (Frames 307-308 of FIAT Microfilm Reel C 110). Feb 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
Properties of new Mowilith ( = polyvinyl acetate) preparations are indicated. The dispersions are designated as "D 64 ca. 70%," "DV ca. 50%," "DV 32 ca. 58%," and "D 50 W ca. 50%." In German.

PB L 33571. CRAEMER, KARL. "Acronal" dispersions as binder for leather fiber materials. (I.G. Farbenindustrie. Kuteko report). (Frames 309-315 of FIAT Microfilm Reel C 110). Feb 1944. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
The new materials described were developed because of shortages which forbade the production of pure polyacrylester dispersions. Compositionsand experiences with them are given in five tables. The results described are only partially favorable. In German.

PB L 33572. SINN. The use of "Igetex" for the production of fibrous leather. (I. G. Farbenindustrie. Kuteko report). (Frames 316-325 of FIAT Microfilm Reel C 110), Feb 1944. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00
The results with different types of "Igetex" are reported, with emphasis on the improvement by vulcanization. The influence of activators, softening agents, fillers, and lubricants is discussed. The results of numerous tests are given in 6 tables. In German.

PB L 33573. MERZ, KARL. "Igetex" as binder for leather fiber materials. (I. G. Farbenindustrie. Kuteko Report) (Frames 326-331 of FIAT Microfilm Reel C 110) Feb 1944. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
"Igetex S" and "SS" were tested because of the scarcity of acrylonitrile and consequent shortage of the superior "Igetex N." Good results are claimed either by vulcanization, or precipitation with "Soromin FL." The results of numerous tests are given in three tables. In German.

PB L 33574. SPIECKER, W. Testing the cold-flexibility of films of "Mowilith" in dispersions. New Mowilth D - plasticizers. (I. G. Farbenindustrie. Kuteko report). (Frames 332-339 of FIAT Microfilm Reel C 110). Feb 1944. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
In order to find good plasticizers for Mowilith-dispersions, the freezing temperatures of plasticized Mowilith D - film were determined by means of the "Überreiter-Klein" dilatometer. The straightline curves obtained with various plasticizers admitted of graphical extrapolation to mixtures of 100 parts of Mowilith and 50 parts of plasticizer. In German.

PB L 33575. MERZ, KARL. Precipitants for dispersions in the production of leather fiber materials. (I.G. Farbenindustrie. Kuteko report). (Frames 340-342 of FIAT Microfilm Reel C 110). Feb 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Tests were made with a number of metal salts and certain organic precipitants which were added to "Acronal 450 D alt." New substances used were aluminum triformate and "Tonalon S." In German.

PB L 33576. CRAEMER, KARL. Ways of improving the moisture resistance (of films). (I.G. Farbenindustrie. Kuteko report). (Frames 343-345 of FIAT Microfilm Reel C 110). Feb 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
This document deals chiefly with tests for the new Acronal 450 D dispersions to which sodium cellulose, "Polymin," aluminum sulfate, and other substances were added. In German.

PB L 33577. BECK and KOLLECK. Minutes of the second meeting of the Kuteko subcommittee VI: "Machines and apparatus for the processing of plastics" on June 25, 1943 in Ludwigshafen. (I.G. Farbenindustrie. Kuteko report). (Frames 346-352 of FIAT Microfilm Reel C 110). Jul 1943. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
Technical details and the action of kneading pumps, calenders, presses, etc. are indicated. In German.

PB L 33578. KIESSKALT, S. Kneading pumps. (I.G. Farbenindustrie. Kuteko report). (Frames 354-357 of FIAT Microfilm Reel C 110). Aug 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report describes the construction and operation of several types of motor-driven kneading pumps. They are used in the working of plastic materials. A patent list is appended. In German.

PB L 33579. DYNAMIT A. G., TROISDORF and I. G. FARBENINDUSTRIE A. G. Pressing procedure for making tablets. (Frames 353, 358-367 of FIAT Microfilm Reel C 110). Aug 1943. 18 p. Price: Microfilm-$1.00 - Photostat-$2.00
This document contains correspondence relating to machines and apparatus for the working of plastic materials. A new tabletting procedure for producing "Igelit" tablets is described. Several tables with diagrams are included, part of which may not reproduce well. In German.

PB L 33580. I. G. FARBENINDUSTRIE A. G. Minutes of the third meeting of the Kuteko subcommittee VI (36th Kuteko meeting) in Troisdorf, on March 3, 1944. (Kuteko report). (Frames 368-378 of FIAT Microfilm Reel C 110). Mar 1944. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00
At this meeting several double worm-gear plastic milling machines constructed at Troisdorf are demonstrated. Their advantages and disadvantages are discussed and suggestions as to their improvement put forward. A report on an improved method of gelation of Igelit PCU soft material was given. The principle of the process in molding plastics is explained. Various other items mostly relating to plastics technology are discussed. In German.

PB L 33581. ERB. The action of worm-gear-pumps, particularly double worm-gear-pumps. (I.G. Farbenindustrie. Kuteko report). (Frames 379-383 of FIAT Microfilm Reel C 110). Feb 1944. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report deals with the action of various types of worm-gear-pumps used for the continuous working of substances. The processes of conveying, mixing and homogenizing, performed by these machines, are explained individually. The various types are compared as to their efficiencies with regard to the above processes. In German.

PB L 33582. I. G. FARBENINDUSTRIE A. G. Minutes of the third meeting of the Kuteko subcommittee VI (36th KUTEKO meeting) March 3, 1944, at Troisdorf. (Kuteko report). (Frame 384 of FIAT Microfilm Reel C 110). Mar 1944. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a brief report on the processing of Igelit by means of three types of kneading pumps. The actions of the individual types and their performacnes are described. In German.

PB L 33583. HONOLD. Thermodynamics of the rapid gelation process. (I.G. Farbenindustrie. Kuteko report). (Frames 385-394 of FIAT Microfilm Reel C 110). Apr 1944. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a theoretical discussion and a mathematical treatment of the factors involved in a projected gelation installation. Formerly, the necessary uniform increase of heat and distribution was achieved by a kneading process using rollers. Now, this kneading process is to be replaced by heating a 10 mm layer in a proper device. In German.

PB L 33584. DYNAMIT A.G., TROISDORF and I. G. FARBENINDUSTRIE A. G. Processes for working up molding materials based on polyvinyl chloride. (Kuteko report). (Frame 395 of FIAT Microfilm Reel C 110). Jan 1944. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
Five different procedures are briefly described together with the necessary equipment and diagrams of the molds. In German.

PB L 33585. AMENDE. On a new, mild, clothes-washing process. (I. G. Farbenindustrie. Waro report). (Frames 396-417 of FIAT Microfilm Reel C 110). Aug 1942. 23 p. Price: Microfilm-$1.00 - Photostat-$2.00
This is a report on a new economical washing process for laundering clothes. After the usual alkaline pre-treatment the laundry is washed with little soap at a pH value between 8 and 9, whereupon the washing is completed in the same medium, using any synthetic detergent without the addition of alkali. This method pays special attention to the removal of the firmly adhering inorganic stains. They receive a fat-like film by the pre-treatment with soap, thereby being converted into a state facilitating their removal with synthetic detergents. This procedure, moreover, is mild on the clothes, because the mechanical treatment does not take place in a strongly alkaline medium, which is particularly harmful to the textile fiber. The favorable results of the laboratory experiments were confirmed in practice. The studies are being continued. Numerous graphs and diagrams are included. In German.

PB L 33587. REPPE. Status of the Ludwigshafen research projects in the field of oxo-alcohols. (I.G. Farbenindustrie. Waro report). (Frame 418 of FIAT Microfilm Reel C 110). n. d. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a report on results with a small pilot plant. In separate high pressure chambers, olefines were subjected first to oxo-reaction, then hydrogenation. For the separation of the alcohols from the olefines, without fractionation, three different methods are declared possible: sulfonation, boric acid method, or hydroxyethylation. (See also PB 33586). Legibility is poor. In German.

PB L 33586. AEROLD. Hydroxyethylation. (I.G. Farbenindustrie. Waro report). (Frame 419 of FIAT Microfilm Reel C 110). n. d. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
A special catalyst was developed, containing little cobalt with a large amount of non-carbonyl forming metals on a non-acid base. Experiments for continuous process are declared to be promising. The alcohols are separated by means of boric acid, or dehydrogenation with strong alkali. See also PB 33587 above. In German.

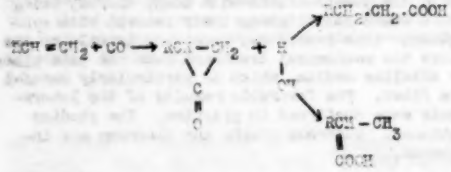
PB L 33588. REPPE. Olefin sulfonates. (I. G. Farbenindustrie. Waro report). (Frames 420-421 of FIAT Microfilm Reel C 110). n. d. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
Sulfonation transforms fatty alcohols and oxo alcohols into the sulfuric acid esters of primary alcohols, the olefins into those of secondary alcohols. The second group is more soluble, while its detergent qualities are at least as good

as those of the first group. Some may be used as substitutes for "Amphoseife 18" in polymerization. Legibility is poor. In German.

PB L 33589. I. G. FARBENINDUSTRIE A. G. Direct sulfonation of saturated hydrocarbons with the aid of ultraviolet light or ozone. (Waro report). (Frame 422 of FIAT Microfilm Reel C 110). n. d. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a brief note on experiments which were to be tested in a pilot plant. In German.

PB L 33590. REPPE. Syntheses of fatty acids. (I.G. Farbenindustrie. Waro report). (Frames 423-424 of FIAT Microfilm Reel C 110). n. d. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
Acetylene with alcohol, nickel carboxyl and hydrogen chloride forms ethylacrylate, nickel chloride and hydrogen. With certain nickel catalysts the reaction can be carried out catalytically, and alcohol can be replaced by water, amines, or mercaptans yielding acrylic acid, acrylamide or thioacrylic acid esters. Acetylene and carbon monoxide react under certain conditions to form the unstable cyclopropenone

, which in turn forms acrylic acid with water and acrylic acid esters with alcohol. This reaction has been applied to olefins and it was found that with certain catalysts the reaction proceeds quantitatively and stoichiometrically:



Straight chain fatty acids are formed simultaneously with $\alpha$-methyl fatty acids, the alkali salts of which are stated to be more soluble and to have a higher foam forming capacity than natural soaps. By catalytic hydrogenation the corresponding alcohols are obtained quantitatively. In German.

PB L 33591. HEROLD. Direct production of fatty alcohols of higher molecular weight. (I. G. Farbenindustrie. Waro Report). (Frame 425 of FIAT Microfilm Reel C 110). n. d. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This document briefly discusses the production of higher molecular weight alcohols by the Oxo-process. By working with iron catalysts at 20 atm. pressure, and reducing the synthesis temperature the content of oxygen containing products could be raised to 60-70%. In German.

PB L 33592. MÜSSLEIN. Minutes of the discussion of problems in the field of detergents in the Color Department, Höchst, June 10, 1940. (I.G. Farbenindustrie. Waro report). (Frames 426-435 of FIAT Microfilm Reel C 110). Jun 1940. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00
Investigations are reported on the use of various synthetic detergents and their ability to replace soap. In German.

PB L 33593. MÜSSLEIN. Minutes of the meeting with the firm, Henkel, Düsseldorf, regarding detergent problems on June 24, 1941, in Frankfort on the Main. (I.G. Farbenindustrie. Waro report). (Frames 436-440A of FIAT Microfilm Reel C 110). Jul 1941. 6 p. Price: Microfilm-$1.00-Photostat-$1.00
Substances of the type of "Emulphor O" are compared; further progress is expected. Testing methods are discussed. Mixing formulae are given for a product containing arylsulfonate, two containing "Mersolat B" and 4 containing "Mesapon N." The effect of tylose in laundering is discussed. Plans for other products are mentioned, and business problems discussed. In German.

PB L 33594. MÜSSLEIN. Meeting of experts in Frankfort on the Main on Feb. 28, 1941. (I. G. Farbenindustrie. Waro report). (Frames 441-451 of FIAT Microfilm Reel C 110). Mar 1941. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00
The following subjects were discussed: The "HPA" mixture, consisting of tylose, pyrophosphate, and "trilon," was declared highly satisfactory as an addition to detergents, for as yet unexplained reasons. The effect of silicates was to be further investigated. The scarcity of raw materials, and the greater sensitivity of cellulose wool materials to alkaline detergents had to be considered. Other subjects were the spray drying of detergent powders, binders for soaps, a synthetic liquid detergent for washing the hands, consisting of 10% "Mesapon N," 1% "Viscol SNA" and 1% "Dermolan" and a number of other products the composition of which is not disclosed. In German.

PB L 33595. THIEL. "Alipons" OAV and OAN. (I.G. Farbenindustrie. Waro report). (Frames 452-459A of FIAT Microfilm Reel C 110). Jul 1941. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
The detergent "Alipon OAV" is a condensate of sodium hydroxyethane sulfonate and the foreruns of fatty acid chlorides which contain the low and medium boiling point fractions. The "OAN" product is obtained by the same reaction, using the tailings of fatty acid chlorides which contain the higher boiling point fractions. In German.

PB L 33596. THIEL. Alipon OTN. (I.G. Farbenindustrie. Waro report). (Frames 460-465 of FIAT Microfilm Reel C 110). Nov 1941. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
Properties, directions for preparation and cost calculations for the above detergent are presented, which is a condensate of fatty acid chloride and methylaminoethane sodium sulfonate. In German.

PB L 33597. MÜSSLEIN. "Mersolat" instead of "Kalunit" in "Hexawa." (I.G. Farbenindustrie. Waro report). (Frame 466 of FIAT Microfilm Reel C 110). Feb 1942. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a short report on test-washing with a detergent in which the active substance of a competitor was replaced with an I.G. Farben-product. In German.

PB L 33598. THIEL. "Alipal D." (I. G. Farbenindustrie. Waro Report). (Frames 467-470 of FIAT Microfilm Reel C 110). Apr 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
"Alipal D," a detergent, consists of 2 mol isohexylene/heptylene and 1 mol phenol, condensed with 4 mol ethylene oxide and sulfonated with amido-sulfonic acid. Properties and directions for its preparation are indicated. In German.

PB L 33602. I. G. FARBENINDUSTRIE A. G. Testing of new products. (Waro report). (Frames 471-472B of FIAT Microfilm Reel C 110). Apr 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
The results of comparative tests of various detergent products are reported. Detergents containing sulfo groups are described. Their exact composition and preparation is not disclosed in this paper. In German.

PB L 33603. MÜSSLEIN. Laundry strained in the washing machine. (Veröffentlichung von Dr. Kind in der Wäscherei- und Plätterei-Zeitung, heft 6,S,62). (I. G. Farbenindustrie. Waro report). (Frame 473 of FIAT Microfilm Reel C 110). Mar 1943. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

The wear and tear of fabrics through washing by washing machines is to be attributed to the mechanical action of the machine, and not to the use of synthetic soaps free of fatty acids which had replaced ordinary soaps. In German.

PB L 33604. MÜSSLEIN. Testing "Le 2/83" in comparison with oxosulfate, oxo fatty acids, etc. (I. G. Farbenindustrie. Waro report). (Frame 474 of FIAT Microfilm Reel C 110). Feb 1943. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is correspondence about "Le 2/83," a carboxylic acid, used as textile aid, not further identified. In German.

PB L 33605. MÜSSLEIN. Oxosulfates made at Leuna. (I. G. Farbenindustrie. Waro report). (Frame 475 of FIAT Microfilm Reel C 110). Jan 1943. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a short letter in which the suggestion is made to study hydroxyethylation products and carboxylic acids of oxoalcohols for their properties as detergents. In German.

PB L 33606. I. G. FARBENINDUSTRIE A. G. Products based on oxoalcohols. (Waro report). (Frames 476-478 of FIAT Microfilm Reel C 110). Oct 1942. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
These products - without disclosing their composition - were tested as detergents. In German.

PB L 33607. STADEN. Corrections for cost calculations of "Mersolat 30." (I. G. Farbenindustrie. Waro report). (Frames 479-480 of FIAT Microfilm Reel C 110). Feb 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
This document gives a correction of previous calculations of cost of production of "Mersolat 30." In German.

PB L 33609. STADEN, V. Mersolat H, salt-containing and low in salt, in tablets. (I. G. Farbenindustrie. Waro report). (Frames 481-484 of FIAT Microfilm Reel C 110). Sep 1942. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
"Mersolat H" differs from "Mesapon N" (Mepasin-sulfonate) only in its form and way of production. The salt containing product contains 15-20% of sodium chloride and 1-1.6% of neutral oil in addition to the active substance, the other product contains 1-2% of sodium chlorine and 0.3-0.5% of neutral oil. Both are detergents. Cost calculations are included. In German.

PB L 33608. STADEN. Announcement of new products. "Oxosulfates I, II, III, Ia, IIa, IIIa." (I. G. Farbenindustrie. Waro report). (Frames 485-485A of FIAT Microfilm Reel C 110). Oct 1942. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
"Oxosulfates" are sulfonation products of oxoalcohols which in turn are obtained from cracked olefins or primary olefins. "I" is the sulfonation product of a mixture of $C_{12}$-$C_{18}$ alcohols, "II" that of a mixture of $C_{13}$-$C_{18}$ alcohols, and "III" that of a mixture of $C_{14}$-$C_{18}$ alcohols. The products "I-III" contain $Na_2SO_4$, the products "Ia-IIIa" contain $Na_2CO_3$. All of them are detergents. In German.

PB L 33610. STADEN, V. Announcement of new products. "Calcium mersolat." (I. G. Farbenindustrie. Waro report). (Frames 486-487 of FIAT Microfilm Reel C 110). Jan 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Composition, preparation, cost calculations, etc. for the above compound are given which can be used in the production of solid and liquid metal cleaning agents. In German.

PB L 33611. STADEN, VON. Announcement of new products. "Synolsulfates I, II, III." (I. G. Farbenindustrie. Waro report). (Frames 488-489 of FIAT Microfilm Reel C 110). Apr 1945. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
"Synolsulfates I, II, III" are sulfonation products of "Synolalcohols" which in turn were developed at Leuna. "I" is the sulfonation product of a $C_{12}$-$C_{18}$ alcohol-mixture, "II" that of $C_{13}$-$C_{18}$ alcohol-mixture, "III" that of a $C_{14}$-$C_{18}$ alcohol mixture. Preparation of the alcohols and properties of their derivatives to be used as detergents are described. See also PB 33608 above. In German.

PB L 33612. STADEN, VON. Announcement of new products. "Mersolat 30," low in salt. (I. G. Farbenindustrie. Waro report). (Frames 490-491B of FIAT Microfilm Reel C 110). Jan 1944. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
Composition, preparation, cost calculation, etc. for the new detergent "Mersolat 30" are given which is a sulfochlorination product of "Kogasin." In German.

PB L 33613. HEROLD and STADEN, VON. Dirt - softening agents for the household. (I. G. Farbenindustrie. Waro report). (Frame 492 of FIAT Microfilm Reel C 110). Jan 1944. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This document indicates that the German soap industry refused to accept the innovations of I.G. Farben. The various department heads were advised to publish outstanding results only. In German.

PB L 33614. DOSER. New, mild clothes-washing process. (I. G. Farbenindustrie. Waro report). (Frames 493-497 of FIAT Microfilm Reel C 110). Sep 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
Reference is made to German patent applications I 67037 and I 67164. BDT is a mixture consisting of 50% sodium ditrichlorobenzyl taurate, and 50% sodium-monooleylsuccinate. Cost calculations, the patent situation, and contracts are reported. Directions for its production are given. A table indicates the cost of the starting materials, the cost of manufacturing and the selling prices. In German.

PB L 33615. AMENDE. Replacing soap with "Tylose MGC 25." (I. G. Farbenindustrie. Waro report). (Frames 498-504 of FIAT Microfilm Reel C 110). Jul 1940. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
This document describes in great detail test-washing of various fabrics with soap to which the above agent was added. "Tylose MGC 25" is a cellulose ether sodium glycolate. The results are tabulated. In German.

PB L 33616. AMENDE. Further experiments for replacing soap and "Mesapon" with "Tylose MGC 25" or "Netyl HB." (I.G. Farbenindustrie. Waro report). (Frames 505-511 of FIAT Microfilm Reel C 110). Oct 1940. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
Exhaustive tests to replace Tylose are reported. The results of all tests were negative.

PB L 33617. SCHWEN. Viscol SNa (25%) for thickening liquid skin lotions. (I. G. Farbenindustrie. Waro report). (Frames 512-514 of FIAT Microfilm Reel C 110). n. d. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Without disclosing the composition of the product called "Viscol SNa (25%)" the effects produced by the compound, to increase the viscosity of solutions of detergents and various formulations are presented. In German.

PB L 33619. SCHWEN and ULRICH. Raw material used in the production of the detergent, "Lu NA8-100%." (I. G. Farbenindustrie. Waro report). (Frames 515-518 of FIAT Microfilm Reel C 110). Jan 1941. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
Lu NA is a brown highly viscous liquid consisting of stearic acid ethanolamide reacted with 8 mol ethylene oxide whereby polyoxyethylether is formed. This substance was tested as a washing agent. In German.

PB L 33618. THIEL. Directions for the production of raw material for the detergent "Lu NaS-100%." (I. G. Farbenindustrie. Waro report). (Frames 519-525 of FIAT Microfilm Reel C 110). Feb 1941. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
"LuNaS 100%" consists of "Soromin A base 100% Z," powdered caustic soda, and ethylene oxide. "Soromin A base" is obtained by the reaction of stearin and monoethanolamine. Cost calculations are included. In German.

PB L 33620. SCHWEN. Arylsulfonic acid. (I. G. Farbenindustrie. Waro report). (Frame 526 of FIAT Microfilm Reel C 110). Apr 1941. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a letter in which experiments for the preparation of a washing powder with arylsulfonic acid by cold spraying are summarized. In German.

PB L 33621. KUCKERTZ. Experiments to produce a washing powder with arylsulfonic acid by spraying. (I. G. Farbenindustrie. Waro report). (Frames 527-533 of FIAT Microfilm Reel C 110). Mar 1941. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
Seven tests with seven different formulations are described. It was concluded that a powder of satisfactory properties could be made with about 10% by weight of aryl sulfonate with the usual quantities of sodium carbonate, water glass and Tylose MHR. In German.

PB L 33622. AMENDE. Testing hydroxyethylation products as clothewashing agents. (I. G. Farbenindustrie. Waro report). (Frames 534-541 of FIAT Microfilm Reel C 110). May 1941. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
Various synthetic products were tested for their ability to replace soap made from natural fatty acids. In German.

PB L 33623. SCHWEN. Current problems in the field of detergents. (I. G. Farbenindustrie. Waro report). (Frames 542-546 of FIAT Microfilm Reel C 110). Jul 1941. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a report on a discussion of current problems, studies and experiences in the field of detergents. It includes detergents for laundries, washing powders for home use, and tests with detergents. In German.

PB L 33624. SCHWEN. Arylsulfonate - Mesapon N. (I. G. Farbenindustrie. Waro report). (Frame 547 of FIAT Microfilm Reel C 110). Feb 1942. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a short note on testing of the two above detergents. Arylsulfonate was found to be superior. In German.

PB L 33625. AMENDE. Testing of arylsulfonate and "Mesapon N" for as clothes-washing agents. (I. G. Farben-Industrie. Waro report). (Frames 548-552 of FIAT Microfilm Reel C 110). Feb 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report presents a series of experiments with aryl sulfonate and "Mesapon N" conducted in a private laundry establishment. The detergents were tested for their cleaning effect on linen. Both chemicals showed an increasing efficiency with increasing concentration; until a maximum cleaning point was reached which could not be surpassed by an increase of concentration. The maximum efficiency of aryl sulfonate was superior to that of "Mesapon N," as was evident from graphs. These results confirm those arrived at by Dr. Uhl, at Nuremberg (Nov. 21, 1941). A table and a graph are included. In German.

PB L 33626. SCHWEN. "HF paste 00." (I. G. Farbenindustrie. Waro report). (Frames 553-556 of FIAT Microfilm Reel C 110). Jul 1942. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
The above condensate used for the preparation of detergents is a paste-like suspension of 70 parts of methanol urea, 30 parts of water and 0.6% of methylether. Directions for its preparations and cost-outlay, etc. are presented. In German.

PB L 33627. AMENDE. Testing of arylsulfonate and "Mesapon" N as clothes-washing agents. (I. G. Farbenindustrie. Waro report). (Frames 557-560 of FIAT Microfilm Reel C 110). Feb 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is the detailed report on washing tests with the above detergents which was summarized in PB 33625. In German.

PB L 33628. SCHWEN and others. Testing new products based on oxoalcohols. Detergent Lu 3/153. (I. G. Farbenindustrie. Waro report). (Frames 561-565 of FIAT Microfilm Reel C 110). Jul 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
The active substance of the detergent "Lu 3/153" consists of 39.1% of tridecylalcohol sodium sulfonate. On account of its high foaming power it is a good substitute for "Cyclanon 14." "Lu 3/154" is another detergent with about 56% of active substance. In German.

PB L 33629. NÜSSLEIN. Testing of new products: Oxosulfates I, II, III, Ia, IIa, IIIa. Oxosulfates I, II, III. "Detergent HO 1/114." (I. G. Farbenindustrie. Waro report). (Frames 566-568 of FIAT Microfilm Reel C 110). Dec 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report deals essentially with the testing of new detergents represented consisting of oxoderivatives. The detergents were compared with each other as to solubility, stability wetting and foaming capacities as well as cleaning power. Directions for the use of the detergents discussed are given and demands for additional studies expressed. The report discusses these compounds regarding their usefulness as detergents in commercial laundries, in domestic laundering and as face and body cleansing agents. In German.

PB L 33630. SCHWEN. New, mild clothes-washing process. (I. G. Farbenindustrie. Waro report). (Frame 569 of FIAT Microfilm Reel C 110). Sep 1942. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This memorandum briefly describes a new washing process for white linen. In German.

PB L 33631. ULRICH and others. Testing new products. Detergent Lu 3/191. (I. G. Farbenindustrie. Waro report). (Frames 570-573a of FIAT Microfilm Reel C 110). May 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
The above detergent consists of about 93% of Schiff's base of sodium sulfanilate and a $C_8$-$C_{10}$-aldelyde obtained by the oxo-reaction. The remaining 7% consists chiefly of sodium sulfate. Instructions for its preparation, paten situation, testing results, etc. are indicated. In German.

PB L 33632. SCHWEN. On new products: Detergent HO 1/181. (I. G. Farbenindustrie. Waro report). (Frame 573b of FIAT Microfilm Reel C 110). May 1944. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a letter concerning the formulation of the above detergent. In German.

PB L 33633. SCHWEN and ULRICH. Detergent Lu 3/176 conc. (Igepon B conc. paste). (I. G. Farbenindustrie. Waro report). (Frames 574-579A of FIAT Microfilm Reel C 110). Jan 1944. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
The above detergent contains about 60 parts of the sodium salt of the sulfonated amide of oleic acid and 1,3-amino-hydroxy-butane. The remainder consists of inorganic salts, a little urea, formamide, and water. Instructions for its preparation, cost-outlay, patent situation, and test results are presented. In German.

PB L 33634. ULRICH. Testing new products: Detergent "Lu 3/180." (I. G. Farbenindustrie. Waro report). (Enlargement print of FIAT Microfilm Reel C 110). (Follows Frame 579a) (2 unnumbered frames). Dec 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
This letter contains supplementory data on a patent application concerning the testing of new detergents. A cost sheet is included. In German.

PB L 33635. QUADVLIEG. Note on experiments to prepare laundering detergents from "Mersolats," conducted by the Teber Cremer Company, Düsseldorf, Apr. 28-30, 1941. (I. G. Farbenindustrie. Waro report). (Frames 580-582 of FIAT Microfilm Reel C 110). n. d. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Laundering detergents containing 10 percent "Mersolate" and 40 percent water were successfully prepared by the cold spray method, with the customary addition of soda and water glass. In German.

PB L 33636. ULRICH. Announcement of new products. Synthetic washing paste "Wo Fl A5." (I. G. Farbenindustrie. Waro report). (Frames 583-584 of FIAT Microfilm Reel C 110). Nov 1941. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
Composition and directions for the preparation of a new detergent are presented. In German.

PB L 33637. ULRICH. Shampoo bases and - powders. (I. G. Farbenindustrie. Waro report). (Frames 585-588 of FIAT Microfilm Reel C 110). Jul 1942. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
Composition, directions for preparation and costs for 4 shampoo bases and powers are presented, the essential component of which is "Mersolat HR." In German.

PB L 33638. HAGGE. Mersolat HR paste. (I. G. Farbenindustrie. Waro report). (Frames 589-591 of FIAT Microfilm Reel C 110). Sep 1942. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Composition, method of production, costs and suggestions for utilization of the above product are indicated. In German.

PB L 33639. WIETZEL, G. Synthetic fatty acid and its conversion products. (I. G. Farbenindustrie. Waro report). (Frames 592-593 of FIAT Microfilm Reel C 110). Feb 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report reviews the prospects for the production of synthetic fatty acids from paraffins. In particular, the yield and the use of the various distillation fractions are discussed. An outline is given of a new working up process in connection with the synthesis of fatty acids. In German.

PB L 33640. KALLE and CO. A. G. "Tylose HBR" for washing agents. (I. G. Farbenindustrie. Waro report). (Frames 594-604 of FIAT Microfilm Reel C 110). Jul 1941. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00
This pamphlet, published by the above firm, deals with washing in general, alkaline washing agents, soaps and substitutes for fatty acid. The older products "Kalunit," "Cyclanon," "Sekurit," "Igepon," "Mersol," and "Mersolat" are discussed. Tylose HBR is described with special attention to its active components and utilization. In German.

PB L 33641. SCHMIDT. Detergents produced by Kalle and Co. (I. G. Farbenindustrie. Waro report). (Frames 605-608 of FIAT Microfilm Reel C 110). Sep 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
This memorandum describes a program for providing the German population with detergents. The barring of curd and soft soaps for domestic use is pointed out. Saving of soap by pretreatment of laundry with Tylose containing agents is discussed. Because of the absence of phosphates in detergents, the possibilities of releasing Tylose for laundering detergents is considered necessary. Investigation of these proposals by competent authorities is urged. The first page of this publication is missing. In German.

PB L 33599. VOSS. Dirt-softening agent for the household. (I. G. Farbenindustrie. Waro report). (Frames 609-611 of FIAT Microfilm Reel C 110). Dec 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Such an agent consisting of soda, water glass, "Mersolat H" and Tylose was described in an earlier paper and is now declared to be highly satisfactory. The changes in composition both of the preliminary and main laundering agent proposed here were to minimize the effect of wartime scarcity of "Mersolat" and Tylose. In German.

PB L 33600. I. G. FARBENINDUSTRIE A. G. Abstract of the minutes of the 4th meeting of the Commission on Raw Materials for Detergents, on Feb. 2, 1943 in Frankfort on Main. (Waro report). (Frames 612-617A of FIAT Microfilm Reel C 110). Feb 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This meeting was concerned with the increasing strain of the raw material situation. Most of the contributions to the discussion dealt with scarcities and possible substitutes. Calcium mersolate is obtained by transformation of sodium mersolate with calcium chloride, in n-propyl alcohol solution at 100° C. It serves for the preparation of cleansing agents. Several methods for the preparation of "Mersolat H" by partial sulfochlorination of mersol are described. A product based on alkylphenol, obtained from two moles isohexylene-heptylene mixture and 1 molephenol, condensed with 4 moles ethylene oxide and sulfonated with amidosulfonic acid, is said to produce the best detergent of whitewash type. Other products are briefly mentioned. In German.

PB L 33601. I. G. FARBENINDUSTRIE A. G. Constitution of various detergents. (Waro report). (Frames 618-619 of FIAT Microfilm Reel C 110). n. d. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a list which gives the composition of 16 I. G. Farben-products together with their trade names. In German.

PB L 80400. NEUBAUER, J. A. High temperature chlorination of methane at Hüls. (FIAT Final Rept 1154). Jun 1947. 5 p. Price: Mimeo-$0.25
The equipment and the process used to produce carbon tetrachloride by the high temperature chlorination of methane is described. The process consists of a two-stage burning of methane with chlorine. The excess chlorine in the first stage acts as a diluent, while the hydrogen chloride gas formed by the first stage burner acts as a diluent in the second stage burner.

PB L 78267-S. REICHSANSSCHUSS FÜR LIEFERBEDINGUNGEN, BERLIN. Sales conditions and test methods for lactic acid casein (as raw material for technical purposes). (FIAT Final Rept 651, Supp.; RAL-093B). 1932. 19 f. Price: Microfilm-$1.00 - Enlargement Print-$2.00
These are regulations agreed on by various companies and agencies which are listed by names. Standards required for the lactic acid casein and marketing conditions are laid down, with special consideration of the various grades. Detailed instructions for the qualitative and quantitative analyses to be performed for testing purposes are given. This is a supplement to Steadmans report "The manufacture of paper tubes, bobbins and cones in Germany" (see PB 78267 abstracted in vol. 7, p. 232 of the Bibliography.

PB L 80399. THORNHILL, FRED S. Acetylene carbon blacks. (FIAT Final Rept 1186). Jun 1947. 15 p. Price: Mimeo-$0.50
Descriptions of two manufacturing processes of acetylene

blacks are given. Both methods are based on the exothermic reaction. $C_2H_2 \longrightarrow 2C + H_2 + 54.3$ kg.-cal/mol. The reaction is carried out either in a static process in closed tubes or in a continuous process operating in a flow system. A list of German personnel interviewed, targets visited, bibliography, samples evacuated, microfilm index and drawings, a flow sheet and diagram of reactor are appended.

*PB L 80611. YOUNG, K. W. Investigation of certain chemical factories in the Leipzig area of Germany. (CIOS XXXIII-31, Item 22). Jun 1945. 150 p. Price: Microfilm-$3.00 - Photostat-$10.00
Nine chemical plants were hurriedly visited in this area, in order to obtain as broad outlines as possible of the processes, prior to Russian occupation. The report has been put together as a series of thirty-nine short reports arranged according to similarity of products. The plants were shut down and very few records, reports, or drawings were available and most of the sketches attached were drawn from rough notes taken on the plants.

## FUELS AND LUBRICANTS

PB L 40286. LOWRY, H. H. and ROSE, H. J. Coal and coke research at Gutehoffnungshutte A. G., Oberhausen. Jul 1945. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 80694. MILLER, ALBERT E. and others. Dissemination of information from the Technical Oil Mission. Dec 1945. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
A communication from Albert E. Miller, Secretary, Technical Advisory Committee (TAC), a subcommittee of the Petroleum Industry War Council PIWC), under the Petroleum Administration for War (PAW) concerning: (a) the setting up of a peacetime industrial group to be known as the API Technical Oil Mission Study Group to continue certain named functions of the work handled by TAC, and (b) method of distribution of reports previously handled by TAC. Attached is a list of these reports.

PB L 80612. PARKER, W. G. and others. Visit to chemical research establishments working on combustion problems. (BIOS Final Rept 532, Item 26 & 30). Jun 1946. 67 p. Price: Microfilm-$2.00 - Photostat-$5.00
This report contains information about work of a fundamental nature on combustion with particular reference to the aero engine and the development of aviation fuels done in some German establishments. The analysis of gases and organic compounds which is an important ancillary to such work was also considered and methods useful for airborne equipment as well as in the laboratory were investigated.

PB L 80698. U. S. TECHNICAL OIL MISSION. Analytical method report No. 1. (Tech Advisory Committee Rept ZAL-1). Aug 1945. 51 p. Price: Microfilm-$2.00 - Photostat-$4.00
Early in 1945 a group of petroleum and fuel technologists investigated the present status of oil technology and research in Germany. The investigation consisted of: (1) examination of synthetic-oil, refining, and other plants related to production of petroleum products as previously outlined in a target list, (2) interrogation of German technical and administrative personnel with these plants, and (3) capture and examination of records, reports, and other documents relating to this industry. This report carries 46 abstracts of analytical reports from Oppau, Ludwigshafen and Leuna. Twenty-seven of which the author of report designates as a special interest.

PB L 80697. U. S. TECHNICAL OIL MISSION. Catalytic cracking. (Tech Advisory Committee Rept CAMC-10). Jul 1945. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Catalytic cracking was not carried out in Germany on a commercial scale as we know it in the United States. Experimental work was being carried out at Leuna on a catalytic process similar to the TCC process, using a silica alumina catalyst. It was planned to build a commercial unit using this process at a proposed underground aviation gasoline plant near Nordhausen.

PB L 80696. U. S. TECHNICAL OIL MISSION. DHD dehydrogenation-high-pressure process. (Tech Advisory Committee Rept DMC-2). Jul 1945. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
The DHD process was developed in Germany by the I. G. Farbenindustrie A. G. for the catalytic dehydrogenation of naphthenes to aromatics and intended primarily for use in improving gasolines produced by hydrogenation. The catalyst employed is molybdena on alumina and the reaction is carried out with recycle hydrogen under a pressure of 400-600 lbs., at a temperature slightly above 925° F. A simplified flow diagram of the process is attached as Figure 1.

PB L 80695. U. S. TECHNICAL OIL MISSION. Hydroforming process. (Tech Advisory Committee Rept HFMC-2). Jul 1945. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
This process was obtained from the Germans and developed in America for the production of aromatics from straight run gasoline. A simplified flow diagram of the Leuna unit is attached as Figure 1. The conclusion is - "on the whole, it does not appear that anything of particular value is to be learned from the Germans on the hydroforming process since the development in the United States seems to be more advanced than in Germany."

## MACHINERY (EXCEPT ELECTRICAL)

PB L 30906. GRANT, D. Unsatisfactory operation of Pesco air booster pumps, part No. 154. (AAF Materiel Command Memo Rept U-EXP-M-51-4672, Addendum 2) Mar 1941. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 74635. KLÖCKNER-HUMBOLDT-DEUTZ A. G., COLOGNE, GERMANY. Motor test reports. (FIAT Microfilm Reel L 102, Frames 1453-2074). 1937-1944. 623 f. Price: Microfilm-$6.00 - Enlargement print-$62.50.
This reel was prepared by FIAT investigators in Germany. 60 individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. In German.

| Frames | Title | Price |
|---|---|---|
| 1453-1478<br>PB L 74635 | Construction of two-cycle gas engines. 1939-1940. In German. | $ 2.50 |
| 1479-1498<br>PB L 74635 | Conversion of Diesels to ignition injection. 1941. In German. | 2.00 |
| 1499-1500<br>PB L 74635 | Tests of gasoline injection. 1940. In German. | 1.50 |
| 1501-1505<br>PB L 74635 | Investigation of a four-cylinder motor with four priser valves and using compressed air. 1939. In German. | 1.50 |

1506-1509 PB L 74635 — Testing of a supercharger. 1940. In German. 1.50

1510-1512 PB L 74635 — Testing of "Solar" oil from the Dutch East Indies. 1939. In German. 1.50

1513-1515 PB L 74635 — Testing of bearings. 1939. In German. 1.50

1516-1517 PB L 74635 — Testing of a compressor. 1940. In German. 1.50

1518-1565 PB L 74635 — Theoretical investigation of the operating conditions of connecting rod bearings. 1937. In German. 5.00

1566-1588 PB L 74635 — Investigation of a motor. 1939. In German. 2.50

1589-1591 PB L 74635 — Starting tests with compressed air. 1939. In German. 1.50

1592-1596 PB L 74635 — Centrifugal clutch. 1939. In German. 1.50

1597-1602 PB L 74635 — Determination of the combustion chamber displacement and position of spark plugs. 1939. In German. 1.50

1603-1605 PB L 74635 — Globe relief valve. 1939. In German. 1.50

1606-1608 PB L 74635 — Investigation of a Ford-RB motor operated with wood gas. n. d. In German. 1.50

1609-1617 PB L 74635 — Front friction bearing. 1939. In German. 1.50

1618-1640 PB L 74635 — Development of hydraulic atomizing pumps to permit the using of viscous fuels without a booster fuel. 1942. In German. 3.00

1641-1666 PB L 74635 — Basis for the use of viscous fuels without booster fuels. 1941. In German. 5.00

1667-1686 PB L 74635 — Investigation of a gear pump and various feeding lines for operation with highly viscous oils. 1940. In German. 2.00

1687-1700 PB L 74635 — Operation and determination of consumption values and output data of motors. 1939. In German. 1.50

1701-1705 PB L 74635 — Starting tests at temperatures below -5°C. 1940. In German. 1.50

1706-1715 PB L 74635 — Investigating manual starting and operation with gasoline of a single cylinder motor. 1939. In German. 1.50

1716-1718 PB L 74635 — Starting of a gas motor. 1939. In German. 1.50

1719-1727 PB L 74635 — Breaking-in of Diesel motors with wood gas. 1939. In German. 1.50

1728-1729 PB L 74635 — Investigation of cylinder heads. 1940. In German. 1.50

1730-1745 PB L 74635 — Change-over to "Otto" operation with liquid gas and gasoline. 1939. In German. 2.00

1746-1748 PB L 74635 — Tests with bituminous coal tar oil from the Saar region. 1939. In German. 1.50

1749-1751 PB L 74635 — Starting tests with a motor by means of compressed air. 1939. In German. 1.50

1752-1756 PB L 74635 — Loss of oil at crank shaft bearings. 1939. In German. 1.50

1757-1762 PB L 74635 — Suction resistance of the standard automobile motor. 1939. In German. 1.50

1763-1770 PB L 74635 — Investigating the corrosion properties of various lignite oils. 1939. In German. 1.50

1771-1773 PB L 74635 — RPM range of a locomotive motor. 1939. In German. 1.50

1774-1781 PB L 74635 — Investigation of a turbine unit motor and fuel pumps. 1939. In German. 1.50

1782-1785 PB L 74635 — Testing a slurry oil made by I. G. Farben for use as a motor fuel. 1939. In German. 1.50

1786-1788 PB L 74635 — Piston cooling oil-joints. 1939. In German. 1.50

1789-1790 PB L 74635 — Testing fuel with an octane number of 74. 1939. In German. 1.50

1791-1792 PB L 74635 — Anti-flutter rings. 1939. In German. 1.50

1793-1803 PB L 74635 — Testing the fuel consumption and promoting smooth operation of the motor. 1940. In German. 1.50

1804-1806 PB L 74635 — Fuel from Trinidad. 1939. In German. 1.50

1807-1810 PB L 74635 — Testing of crude oil from Brazil. 1939. In German. 1.50

1811-1820 PB L 74635 — Testing a motor operated with thick oils and heating oils. 1940. In German. 1.50

1821-1827 PB L 74635 — Capacities of cooling water pumps. 1942. In German. 1.50

1828-1837 PB L 74635 — Improvement of the cold-starting quality of automotive motors. Cold starting tests down to -40° C. 1942. In German. 1.50

1838-1850 PB L 74635 — Improvement of the cold starting quality of automatic motors. Cold starting tests down to -30° C. 1942. In German. 1.50

1851-1858 PB L 74635 — Breaking-in of a new design engine for the purpose of charging tests. 1942. In German. 1.50

1859-1889 PB L 74635 — Ignition injection operated motor with anthracite gas. 1942. In German. 3.50

1890-1920 PB L 74635 — Change-over of motors to "Otto" operation with wood gas and coal generator gas. 1942-1943. In German. 3.50

1921-1925 PB L 74635 — Gear-type oil pump. 1942. In German. 1.50

1926-1936 PB L 74635 — Formation of vapor bubbles. 1942. In German. 1.50

1937-1942 PB L 74635 — Testing a motor with intermittent regulation for the operation of dredges. 1942. In German. 1.50

1943-1949 PB L 74635 — Operation of a pressure gas installation. 1942. In German. 1.50

1950-1957 PB L 74635 — Otto cycle operation with wood gas. 1942. In German. 1.50

1958-1962 PB L 74635 — The most efficient change-over of locomotive engines to use generator gas. 1942. In German. 1.50

Machinery (contd)

1963-1966 PB L 74635 — Tests concerned with the lowering of the fuel consumption of a Diesel engine. 1942. In German. 1.50

1967-1978 PB L 74635 — Pressure measuring devices. 1942. In German. 1.50

1979-1985 PB L 74635 — Use of powder cartridges as aid in starting. 1942. In German. 1.50

1986-2038 PB L 74635 — Breaking in of a motor. 1942. In German. 5.50

2039-2046 PB L 74635 — Wood gas operation with a "Mercedes" motor. 1942. In German. 1.50

2047-2054 PB L 74635 — Basis for the purifying installation of a lignite gas generator. 1944. In German. 1.50

2055-2074 PB L 74635 — "Otto" operation with anthracite gas and wood gas at various compressions. 1942. In German. 2.00

PB L 31915. PATTISON, R. B. and TUCK, S. F. Air compressors for M.A.P. aero research equipment. (BIOS Evaluation Rept 380) Feb 1946. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

## MEDICAL RESEARCH AND PRACTICE, INCLUDING CLINICAL APPLICATION OF DRUGS AND PHARMACEUTICALS

PB M 28567. DANGER, JAMES F. Captured Japanese medical items. Apr 1945. 3 p. Price: Microfilm-$1.00-Photostat-$1.00

PB M 74258. ERLANGEN, GERMANY. UNIVERSITY. A collection of doctors' theses. (FIAT Microfilm Reel D 160, Frames 8143-9284) 1940-1943. 1137 f. Price: Microfilm-$6.00 - Enlargement print-$114.00

This FIAT microfilm reel consists of 61 theses on various medical subjects. The material was obviously seized in the library of the above university. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 8148-8158 PB M 74258 | True diffuse phlebarteriectasia. By Kupfermann. 1940. In German. | $ 1.50 |
| 8159-8198 PB M 74258 | Population studies at an Upper-Silesian peasant village. By Laberke. 1941. In German. | 4.00 |
| 8199-8222 PB M 74258 | Results of climatic therapy in a secondary mountain chain, demonstrated by the behavior of the skin temperature. By Loschner. 1941. In German. | 2.50 |
| 8223-8232 PB M 74258 | Laxative effect of the Glauber salt and sodium chloride in mineral water drinking cures. By Loth. 1941. In German. | 1.50 |
| 8233-8249 PB M 74258 | Contribution to the treatment of oral diseases. By Mainka. 1941. In German. | 2.00 |
| 8250-8257 PB M 74258 | Circumscribed arachnoidal sarcoma of the cerebellum. By Marquardt. 1940. In German. | 1.50 |
| 8258-8267 PB M 74258 | Effect of tight clothing on the human body. By May. 1941. In German. | 1.50 |
| 8268-8307 PB M 74258 | On the properties and effect of mud baths, with special regard to the viscosity of the mud and the results of measuring its viscosity by means of a plummet. By Mehl. 1940. In German. | 4.00 |
| 8308-8346 PB M 74258 | Hahnemann and the homeopathic schools before and after his time. By Mehlhose. 1940. In German. | 4.00 |
| 8347-8355 PB M 74258 | Untoward incidents occuring in the serotherapy of diptheria and meningitis, and means of their control or prevention. By Menze. 1941. In German. | 1.50 |
| 8356-8363 PB M 74258 | Alleviation of labor pain by "Duochin". By Mielke. 1941. In German. | 1.50 |
| 8364-8374 PB M 74258 | Syphilis of the vulva. By Muschner. 1941. In German. | 1.50 |
| 8375-8389 PB M 74258 | Management of blood transfusions, with special regard to requirements in war medicine. By Oeffinger. 1940. In German. | 1.50 |
| 8390-8399 PB M 74258 | "Hemostatic" effect on blood pressure (Effect of different positions of the body on blood pressure). By Olearius. 1941. In German. | 1.50 |
| 8400-8409 PB M 74258 | Differences in dentition in uniovular and binovular twins. By Piechotta. 1941. In German. | 1.50 |
| 8410-8419 PB M 74258 | Effect of different activities on cutaneous circulation. By Reimann. 1941. In German. | 1.50 |
| 8420-8425 PB M 74258 | Capillary resistance and its bearing on menstruation in women. By Rudel. 1940. In German. | 1.50 |
| 8426-8438 PB M 74258 | The metastatic tumors of the central nervous system. By Rudzki. 1941. In German. | 1.50 |
| 8439-8460 PB M 74258 | The role of bacteria in caries according to recent literature. By Sacher. 1941. In German. | 2.50 |
| 8461-8475 PB M 74258 | The effect of sulfur baths on the skin temperature. By Sadel. 1941. In German. | 1.50 |
| 8476-8499 PB M 74258 | Present situation in the treatment of otogenic meningitis. By Schneemilch. 1941. In German. | 2.50 |
| 8500-8511 PB M 74258 | May the colloidal phase buffer test be used for the specific sero diagnosis of tuberculosis? By Schroeder. 1941. In German. | 1.50 |
| 8512-8533 PB M 74258 | Cutaneous metastases in the presence of cancer of internal organs and of the skin. By Schwabe. 1941. In German. | 2.50 |
| 8534-8549 PB M 74258 | Studies on the bacteria content of ice-cream. By Stammwitz. 1941. In German. | 2.00 |
| 8550-8562 PB M 74258 | Effect of coffee on achievements in sports. By Stephan. 1941. In German. | 1.50 |

8563-8571 PB M 74258 — Investigations on hypertrophy of the adrenal cortex following castration and a diet lacking in vitamin $B_1$. By Steuer. 1941 In German. 1.50

8572-8579 PB M 74258 — Treatment of pyelitis, cystitis and bacilluria with "Albucid". By Strachotta. 1941. In German. 1.50

8580-8592 PB M 74258 — Influence of practicing several activities common in every-day life on the strength of the respective muscular actions. By Thieme. 1940. In German. 1.50

8593-8604 PB M 74258 — Clinical discussion on the treatment of osteomyelitis of the lower jaw. By Thomas. 1941. In German. 1.50

8605-8625 PB M 74258 — Dental implications of essential aleukia hemorrhagica or panmyelophthisis. By Thürnagel. 1940. In German. 2.50

8626-8665 PB M 74258 — Infant mortality in the City of Ratibor, with special regard to its social conditions. By Ullrich. 1941. In German. 4.00

8666-8676 PB M 74258 — Contribution to the so-called "dilaceration" according to Thomes-v. Wunschheim. By Vogt. 1940. In German. 1.50

8677-8689 PB M 74258 — Diagnostic and prognostic importance of the sternal punctate in myelopathias. By Walter. 1941. In German. 1.50

8690-8706 PB M 74258 — Patterns of foot imprint and patterns of gait. By Weist. 1940. In German. 2.00

8707-8726 PB M 74258 — Malpractice and negligence in dentistry. By Wolko. 1940. In German. 2.00

8727-8774 PB M 74258 — Histamine and intestinal obstruction. By Bessel-Lorck. 1942. In German. 5.00

8775-8825 PB M 74258 — Medical topographies of German language areas, prepared in the nineteenth century. By Brandlmeier. 1942. In German. 5.50

8826-8886 PB M 74258 — Ulrich Ellenbog, "Stadtarzt" (municipal medical officer) of Memmingen and his treatises on plague. By Breher. n. d. In German. 6.50

8887-8891 PB M 74258 — Animal experiments dealing with the problem of "Altitude convulsions and air temperature". By Bunge. 1942. In German. 1.50

8892-8923 PB M 74258 — Hereditary etiologic factors in intersexuality. By Crapnik. 1942. In German. 3.50

8924-8943 PB M 74258 — Relationship between eclampsia and allergic diathesis or diseases rendering allergic. Anatomical research and attempt at a critical investigation. By Döweritz. 1942. In German. 2.00

8944-8955 PB M 74258 — Coincidence of tuberculosis and Graves' disease. By Elten. 1942. In German. 1.50

8956-9006 PB M 74258 — Hygiene of working in fascist Italy. By Felten. 1942. In German. 5.50

9007-9036 PB M 74258 — "Nervous children" : cases of a spasmophilic-tetanoid constitution with or without neurotic hereditary traits. By Friedrich. 1942. In German. 3.00

9037-9042 PB M 74258 — Pulse rate and expulsion time of the heart, as found experimentally in alpine regions, during work, and in acute lack of oxygen. By Heimsoth. 1942. In German. 1.50

9043-9059 PB M 74258 — So-called "testing fever" and pathological anatomy. By Heinemeyer. 1942. In German. 2.00

9060-9067 PB M 74258 — Comparative investigations into the effect of freshly baked and stale whole-grain bread on the glycogen content of the liver. By Herrmann. 1941. In German. 1.50

9068-9078 PB M 74258 — Performing Schultz-Charlton's blanching reaction with "Homoseran". By Hinz. 1942. In German. 1.50

9079-9087 PB M 74258 — Effect of artificial fever on gastric secretion. By Jaenicke. 1941. In German. 1.50

9088-9107 PB M 74258 — Changes about teeth situated within the area of benignant or malignant tumors of the jaws. By Jahn. 1942. In German. 2.00

9108-9118 PB M 74258 — Effect of spinal puncture on bronchial asthma : possible relationship to insulin shock therapy. By Jomuleit. 1943. In German. 1.50

9119-9134 PB M 74258 — The ill-treated child amidst normally treated brothers and sisters. By Kaboth. 1942. In German. 2.00

9135-9142 PB M 74258 — Experiments on the effect of rapid reduction of air pressure on animals. By Keller. 1942. In German. 1.50

9143-9160 PB M 74258 — Spinal fluid findings in the presence of spinal tumors. By Klauenflügel. 1941. In German. 2.00

9161-9169 PB M 74258 — Pathogenesis of angiomatous cysts of the hemisphere. By Klein. 1942. In German. 1.50

9170-9179 PB M 74258 — Esophago-broncho-tracheal fistulae. By Koschorrek. 1942. In German. 1.50

9180-9191 PB M 74258 — Behavior of several plastic materials as to shear strength, color fastness and color absorption. By Kraus. 1942. In German. 1.50

9192-9214 PB M 74258 — Pseudotumor cerebri. By Kriete-meyer. 1942. In German. 2.50

9215-9227 PB M 74258 — Measurements on phantoms with irradiation under oblique rotation. By Lengeling. 1942. In German. 1.50

9228-9236 PB M 74258 — Investigations into the oxytocin and vasopressin content of the posterior lobe of the pituitary gland of rats and the influence of administering sodium chloride and water to these animals when kept under a salt-free diet. By Liebert. 1942. In German. 1.50

9237-9284 PB M 74258 — Health and disease among coal miners : studies on morbidity and frequency of morbid defects from prevalent diseases in a mine district. By Marsch. 1942. In German. 5.00

PB L 74170. ERLANGEN, GERMANY. UNIVERSITY. A collection of doctors' theses. (FIAT Microfilm Reel D-163, Frames 1522-2645) 1938-1941. 1124 f. Price: Microfilm-$6.00 - Enlargement print-$112.50.
This FIAT microfilm reel consists of 70 items dealing with several branches of medicine. The material was obviously seized in the library of the above university. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 1522-1530 PB L 74170 | Studies of the relationship between Weltmann's coagulation problem of the allergic origin of hepatopathies. By Hoveler. 1940. In German. | $1.50 |
| 1531-1540 PB L 74170 | Spontaneous rupture of the bladder. By Hohrath. 1941. In German. | 1.50 |
| 1541-1569 PB L 74170 | Views of the Strasbourg physician, Johann Winther von Andernach, on ancient and modern medicine, according to his work of 1571. By Hollfelder. 1939. In German. | 3.00 |
| 1570-1580 PB L 74170 | Knee presentations. By Hoppe. 1939. In German. | 1.50 |
| 1581-1592 PB L 74170 | Anthropological evaluation of x-ray over-all pictures. By Hovestadt. 1940. In German. | 1.50 |
| 1593-1600 PB L 74170 | Contribution to the problem of chronic carbon monoxide poisoning. By Huck. 1940. In German. | 1.50 |
| 1601-1641 PB L 74170 | Freiherr Anton von Stoerck and his contributions to the healing art. By Huege. 1940. In German. | 4.50 |
| 1642-1650 PB L 74170 | Sensitization of the skin to dinitrochlorobenzene. By Hulser. 1940. In German. | 1.50 |
| 1651-1659 PB L 74170 | Contribution to the problem of chloroma. By Huren. 1941. In German. | 1.50 |
| 1660-1668 PB L 74170 | Similarity between meningococci and gonococci or properties common to both. By Jacke. 1941. In German. | 1.50 |
| 1669-1680 PB L 74170 | Evidence of complete sensitization in guinea-pigs painted with dinitrochlorobenzene. By Jansen. 1940. In German. | 1.50 |
| 1681-1695 PB L 74170 | Significance of strophantine for transitory disturbances of the intraventricular conduction system. By Janssen. 1940. In German. | 1.50 |
| 1696-1703 PB L 74170 | On the problem of the relationship between cutaneous tuberculosis and pulmonary tuberculosis. By Janzen. 1940. In German. | 1.50 |
| 1704-1727 PB L 74170 | Charles Michael Billard's contribution to the progress of pediatrics. By Ibringer. 1939. In German. | 2.50 |
| 1728-1742 PB L 74170 | Present state of research on the relationship between disease and handwriting. By Johannssen. 1940. In German. | 1.50 |
| 1743-1750 PB L 74170 | A case of endocarditis with embolism into the left brachial artery. By Johnen. 1940. In German. | 1.50 |
| 1751-1763 PB L 74170 | Number and fate of prematures delivered at the women's hospital of the Medical Academy of Duesseldorf in the years of 1930-1934. By Irmer. 1941. In German. | 1.50 |
| 1764-1782 PB L 74170 | Effect of infusion of peppermint leaves on gastric secretion. By Karrenbrock. 1941. In German. | 2.00 |
| 1783-1800 PB L 74170 | Contribution to the genesis of elephantiasis. Case report. By Kathmann. 1939. In German. | 2.00 |
| 1801-1814 PB L 74170 | Contribution to traumatic ruptures of the symphysis. By Kaufmann. 1940. In German. | 1.50 |
| 1815-1833 PB L 74170 | Defects in the drinking water supply and corrective measures, as observed by the author. By Kaup. 1940. In German. | 2.00 |
| 1834-1866 PB L 74170 | Life and work of Heliodorus. By Kenrings. 1940. In German. | 3.50 |
| 1867-1878 PB L 74170 | Prognosis of childhood tuberculosis with regard to cases of intrafamilial and extrafamilial infection. By Kessing. 1940. In German. | 1.50 |
| 1879-1889 PB L 74170 | The conception of prevention of traffic accidents and clinical and serological findings(in body fluid analyses for the detection of alcohol). By Killmer. 1941. In German. | 1.50 |
| 1890-1898 PB L 74170 | Precision instrument determinations of aneurine in urine by the method of Otto and Rubmskorb. By Kirchhoff. 1940. In German. | 1.50 |
| 1899-1911 PB L 74170 | Indication for orthopedic and orthodontic interventions in open bites. By Kissel. 1940. In German. | 1.50 |
| 1912-1929 PB L 74170 | Treatment of epidemic meningitis with sulfonamide preparations. By Klamroth. 1941. In German. | 2.00 |
| 1930-1941 PB L 74170 | A case of extreme congenital malformation of the body. By Klapheck. 1940. In German. | 1.50 |
| 1942-1949 PB L 74170 | Clinical results in managing breech presentations by means of Brecht's manual method. By Kleff. 1941. In German. | 1.50 |
| 1950-1966 PB L 74170 | Experience with skin-testing by Gudzent's method (with "Allergenin"). By Klusener. 1940. In German. | 2.00 |
| 1967-1986 PB L 74170 | Problems of milk supply in large cities. By Knapp. 1940. In German. | 2.00 |
| 1987-1999 PB L 74170 | Contribution to the problem of aortic rupture, based on findings on the post mortem material of the institute for pathological anatomy at Duesseldorf. By Knotte. 1938. In German. | 1.50 |
| 2000-2016 PB L 74170 | The red blood pattern under the influence of oxygen lack. By Koch. 1938. In German. | 2.00 |
| 2017-2040 PB L 74170 | Indication for and technique of tooth extractions. By Kohler. 1941. In German. | 2.50 |
| 2041-2047 PB L 74170 | Two-stage rupture of the spleen. By Kolzer. 1940. In German. | 1.50 |

2048-2058 PB L 74170 — Course and etiology of so-called acute yellow atrophy of the liver. By Konigshausen. 1940. In German. 1.50

2059-2067 PB L 74170 — Results of medical and surgical treatment of spastic pylorostenosis, based on the cases treated in the Solingen children's hospital during the past ten years. By Kortenhaus. 1940. In German. 1.50

2068-2075 PB L 74170 — Investigations on the porphyrin content of blood and urine after injections of protoporphyrin. By Korthaus. 1940. In German. 1.50

2076-2096 PB L 74170 — Blood tests as a means of exclusion of paternity (statistical records from the years 1935-1940). By Krah. 1941. In German. 2.50

2097-2110 PB L 74170 — On tumors of the umbilicus. By Kratz. 1940. In German. 1.50

2111-2116 PB L 74170 — Injuries to the female organism by nicotine ; a study of the effect of tobacco on 1000 female tobacco workers, with special regard to the female genitals and their functions. By Krebs. 1940. In German. 1.50

2117-2137 PB L 74170 — Bronchial asthma and internal secretion. By Krelhaus. 1940. In German. 2.50

2138-2149 PB L 74170 — On Gardenigo's syndrome. By Keytenberg. 1940. In German. 1.50

2150-2159 PB L 74170 — On porphyrin formation during sulfonamide medication. By Krieg. 1941. In German. 1.50

2060-2081 PB L 74170 — Comprehensive reports on polyneuritis after sulfonamide medication. By Krieger. 1941. In German. 2.50

2082-2098 PB L 74170 — Ectopic pregnancies during the second half of gestation including a case of ectopic pregnancy carried to term. By Kuhling. 1941. In German. 2.00

2199-2215 PB L 74170 — Life and work of the French dentist, Emile Maritot. By Kuhnohl. 1940. In German. 2.00

2216-2224 PB L 74170 — Unusual fatal hemorrhages of the esophagus and stomach (esophageal varices without pyloric congection, hemangioma arteriosum of the stomach). By Kunstler. 1941. In German. 1.50

2225-2234 PB L 74170 — Etiology and symptomatology of subarachnoidal hemorrhages in childhood. By Kurle. 1941. In German. 1.50

2235-2247 PB L 74170 — Basal metabolism and increase of body weight during pregnancy. By Kuntzmuller. 1940. In German. 1.50

2248-2255 PB L 74170 — Cervical myoma and pregnancy. By Kunze. 1940. In German. 1.50

2256-2272 PB L 74170 — Pulmonary edema and childbirth. By Kutzner. 1940. In German. 2.00

2273-2291 PB L 74170 — Building of blocks of dwelling houses formerly and nowadays. By Langhoff Wilgers. 1938. In German. 2.00

2292-2322 PB L 74170 — Clinical observations on perforated peptic ulcers of the jejunum. By Laufenberg. 1938. In German. 3.50

2323-2339 PB L 74170 — Contribution to the symptomatology of lead poisoning in neurologic and psychiatric respects. By Lauffs. 1938. In German. 2.00

2340-2350 PB L 74170 — A rare malignant mixed tumor of the liver in a 16-month-old boy. By Leffers. 1941. In German. 1.50

2351-2367 PB L 74170 — Raynaud's disease in children. By Lehment. 1940. In German. 2.00

2368-2391 PB L 74170 — Phenomenologic contribution to the tetany problem. By Leuchtenberg. 1941. In German. 2.50

2392-2402 PB L 74170 — Contribution to the knowledge of the standard values of tallness and weight for 6-year-old boys in Dusseldorf. By Lichtenberg. 1941. In German. 1.50

2403-2415 PB L 74170 — Detection of Diatomeae in the lungs of drowned and its significance for the proclamation of death by drowning in the Rhine. By Löber. 1940. In German. 1.50

2416-2424 PB L 74170 — Investigations on the excretion of acid by the human stomach as a result of the effect of parotis extract. By Lohrmann. 1938. In German. 1.50

2425-2448 PB L 74170 — The surgeon, Felix Wirtz, his life and work. By Lorens. 1940. In German. 2.50

2449-2461 PB L 74170 — Blood cell sedimentation and effect of general and local anesthesia on this phenomenon. By Ludwig. n.d. In German. 1.50

2462-2472 PB L 74170 — Infanticide: crime statistics and psychiatrical analysis based on cases of the institute for forensic medicine in Dusseldorf. By Marzhausen. 1940. In German. 1.50

2473-2484 PB L 74170 — Decrease of serum sickness following diptheria and effect of additional treatment with vitamin C and adrenal cortex extract on the course of diptheria in 1937. By Malchin. 1938. In German. 1.50

2485-2500 PB L 74170 — Significance of simple excision in the treatment of lupus vulgaris. By Max. 1939. In German. 2.00

2501-2507 PB L 74170 — Pathogenesis of epithelial metaplasias in the mucosa of the uterus. By Mechlen. 1940. In German. 1.50

2508-2524 PB L 74170 — Catamnestic investigations on the further development of children who were treated for spasmophilia in the children's ward of the Medical Academy of Dusseldorf during the years 1907-1918. By Mehring. 1940. In German. 2.00

2525-2535 PB L 74170 — On "Neutracid" as protective agent for the pulp during fillings with silicate. By Mehring. 1940. In German. 1.50

2536-2549 PB L 74170 — Contribution to the problem of so-called erythroleucoblastosis of the newborn. By Mellinghoff. 1940. In German. 2.00

2550-2558 PB L 74170 — Skin test and leukopenic index in late exudative diathesis. By Merten. 1941. In German. 1.50

2559-2570 PB L 74170 **Primary malignant renal tumors other than hypernephroma.** By Merten. 1940. In German. 1.50

2571-2594 PB L 74170 **Contribution to the etiology and pathogenesis of disorders of the nervous conduction system in the heart.** By Mews. 1941. In German. 2.50

2595-2607 PB L 74170 **Studies regarding the frequency of the group properties of the groups $A_1$ and $A_2$.** By Meyer. 1940. In German. 1.50

2608-2624 PB L 74170 **Active immunization against diphtheria.** By Michael. 1938. In German. 2.00

2625-2636 PB L 74170 **Contribution to the pathology of miliary necroses of the liver of unknown origin.** By Michel. 1940. In German. 1.50

2637-2645 PB L 74170 **Present results of subtrochanteric osteotomy in inveterate cases of congenital dislocation of the hip-joint.** By Millhoff. 1939. In German. 1.50
Incomplete.

PB M 12863-S. GERMANY. REICHSFORSCHUNGSRAT. General correspondence and reports on medical research projects. Feb-Apr 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a supplement to a report of the same title and source as indicated above (PB 12863 on page 777 of volume 1 of the Bibliography). The present document gives the titles of medical reports, summaries of secret orders and letters pertaining to medical research. In English.

* PB M 80359. LUSTIG, R. T. Biophysics with special reference to electrobiology. (FIAT Final Rept 884). May 1947. 98 p. Price: Mimeo-$2.50
This report reviews German development in ultra short wave therapy and research in dielectric constants and specific resistance of animal and human tissue. Sensitive detectors in the field of infra red, visible light, ultra-violet, X-ray, and radio activity are described and photostatically illustrated. A new instrument for erythrocyte determinations is described. Several devices of interest to the biophysicist are referred to in this report and instruction as to where they may be obtained is included.

PB M 1698-S. MISCELLANEOUS military documents from Army headquarters. (Abstracts in English of documents included in PB 1698). 1940-1944. 45 p. Price: Microfilm-$1.00 - Photostat-$3.00
These documents are a supplement to "Miscellaneous German scientific and medical documents" (PB 1698 on page 272 of vol. 1 of the Bibliography). They are English synopses of 45 research papers on various medical topics, prepared by the American Medical Association.

## MINERALS AND MINERAL PRODUCTS

PB L 52022. GERMANY. REICHSAMT FÜR WIRTSCHAFTSAUSBAU. Chemische Berichte Jan 1943. Meeting of the cooperative group supplying the glass industry with alkali, May 3, 1942. Jan 1943. 49 p. Price: Microfilm-$1.00 - Photostat-$4.00

For abstracts of these papers see "Chemicals and Allied Products--Miscellaneous Chemicals" in this issue of the Bibliography.

PB L 79509. HOWER, LAWRENCE D., JR. and others. Refractory insulating coatings for metal. Interim report no. 2, Feb 1 - Mar 1, 1947. (Rutgers Univ N. J. Ceramic Res Station Rept 3). Mar 1947. 5 p. Price: Mimeo-$0.25
This is a very brief report covering progress made during a one month's period on a research project on refractory coating for metals. An improved Oxygen-Acetylene torch was designed and tested. A sketch of this torch is included.

PB L 79511. HOWER, LAWRENCE D., Jr. and others. Refractory insulating coatings for metal. Quarterly report no. 2, Jan 1-Apr 1, 1947. (Rutgers Univ N. J. Ceramic Res Station Rept 4). Apr 1947. 10 p. Price: Mimeo-$0.50
The oxygen acetylene burner described in quarterly report No. 1 has been replaced by one of better design. This new oxygen-acetylene torch is illustrated and its functions described. Test of several primary coatings consisting of metallic oxides were made and results, conclusions and recommendations are given.

PB L 74305. RAU, WILHELM. The science of precious stones. (FIAT Microfilm Reel G 300, Frames not numbered), 6th ed., 1942. 180 f. Price: Microfilm-$2.75 - Enlargement Print-$18.00
The first part of this textbook deals with precious stones in general, their treatment, value, and value determination. The second part contains details regarding the mechanical, optical and electrical properties of individual precious stone including pearls. The synthesis of precious stones, cultivation of pearls and falsification of both are treated in a supplement. In German.

PB L 79506. ULLTZ, H. F. H. Refractory insulating coatings for metal. Interim report no. 1, Jan 1 - Feb 1, 1947. (Rutgers Univ N. J. Ceramic Res Station Rept 2). Feb 1947. 3 p. Price: Mimeo-$0.25
This is a very brief report covering progress made during one month of a research project on refractory coatings for metals. A brief outline of the torch and chamber apparatus is given and a schematic diagram is included.

## PERSONNEL APTITUDE TESTING AND JOB TRAINING

PB L 74058. HAUPTAUSSCHUSS FÜR BERUFSERZIEHUNG UND BERUFLENKUNG, BERLIN, GERMANY. Metal trade training. (FIAT Microfilm Reel BB 222, Frames 1-298) 1937. 298 f. Price: Microfilm-$3.75 - Enlargement print-$30.00
This reel, prepared by FIAT investigators in Germany, contains educational material for the vocational training of metal workers, tool makers, millers and lathe operators in the use of cutting and stamping machines. Instructions for measuring tolerances and the tools used are described. Theories are applied, evaluated and explained by drawings. The material on this reel originated with the former "Deutsche Arbeitsfront," the "Reichsluftfahrtministerium," and the "Loewe Gewerbeschule." In German.

PB L 74057. LEHRMITTELZENTRALE DER ARBEITSFRONT, BERLIN, GERMANY. Fundamental course of instruction for employees in the iron and metal industries. (FIAT Microfilm Reel BB 194, Frames 1-107) Feb 1944. 107 f. Price: Microfilm-$2.00 - Enlargement print-$11.00

Personnel Aptitude Testing (contd)

This is a 208-page book, entitled "Grundlehrgang für die Berufe der Eisen- und Metallindustrie," published by Lehrmittelzentrale der Deutschen Arbeitsfront, Verlagsgesellschaft m. b. H., Berlin. The course of instruction covers a period of 3-4 months, and is intended to serve as a vocational guide and enhance professional skill. Working directions, drawings, instruction sheets and directions for making evaluations are included. In the practical portion basic fundamentals are treated, e. g., measuring, tracing, filing, chiseling, sawing, drilling, thread cutting, spring winding, grinding, cutting, hammering, bending, riveting, soldering, forging and annealing. Checking and evaluation of the work done by the apprentices is carried out with a point system according to a plan. Safety considerations are stressed. In German.

## PHOTOGRAPHIC AND OPTICAL GOODS (INCLUDING PHOTOGRAPHIC PROCESSING)

PB L 73133. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Calculations for objectives and optical systems. (FIAT Microfilm Reel I 13, Frames 4-1160) 1931. 1157 f. Price: Microfilm-$6.00 - Enlargement print-$116.00.

This FIAT microfilm reel consists of calculations, drawings and graphs for objectives and optical systems as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 4-132 PB L 73133 | Objective f = 20 mm. 1:2.8 developed from f = 20 mm. 1:3.5. Calculation. n. d. In German. | $13.00 |
| 133-152 PB L 73133 | Objective f = 25 mm. Drawings and calculation. n. d. In German. | 2.00 |
| 153-184 PB L 73133 | Microscope objective "Mikro 7" 62x, 1:0.85. Calculation, n.d. In German. | 3.50 |
| 185-266 PB L 73133 | Unidentified calculations. n.d. In German. | 8.50 |
| 267-295 PB L 73133 | Forms for entering data on objectives. n.d. In German. | 3.00 |
| 296-470 PB L 73133 | Data on infrared Tessars f = 50 cm, designated by serial numbers and camera numbers in which such tests as focal length, etc. were made. 1942. In German. | 17.50 |
| 471-543 PB L 73133 | Telescope system 1: 1.175 calculations and drawing. n.d. In German. | 7.50 |
| 544-565 PB L 73133 | Telescope system 1:2.0 f = 75.0 mm. Calculations, drawings and graphs. n.d. In German. | 2.50 |
| 566-740 PB L 73133 | Wide-angle objective 100°, f = 20 mm, 1:9.0 and 1:12.5. Calculation, drawings and graphs. 1931. In German. | 17.50 |
| 741-916 PB L 73133 | Wide-angle objective 100°, f = 35 mm, 1:3.5. Calculations. n. d. In German. | 17.50 |
| 917-1035 PB L 73133 | Wide-angle objective, 1:3.5, f = 25 mm. Calculations, drawings and graphs. n. d. In German. | 12.00 |
| 1036-1160 PB L 73133 | Objective 1:0.65, f = 1.0 for X-ray photographs. Calculations, drawings and graphs. 1936. In German. | 2.50 |

PB L 73151. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Parts lists and detail drawings of electrical equipment for optical instruments. (FIAT Microfilm Reel I 31, Frames 941-1290) 1941-1943. 350 f. Price: Microfilm-$4.25 - Enlargement print-$35.00

This FIAT microfilm reel consists of parts lists and detail drawings of rheostats, fixed resistances, plugs and sockets, switches, lamps and accessories for electrical equipment used in and in connection with various unspecified optical instruments. In German.

PB L 73145. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Parts lists and drawings for cameras and other photographic equipment. (FIAT Microfilm Reel I-25, Frames 4662-5467) 1932-1939. 806 f. Price: Microfilm-$6.00 - Enlargement print-$81.00.

This FIAT microfilm reel consists of parts lists and drawings for miniature film cameras, range and view finders, enlargers, objectives and accessories. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 4470-4680 PB L 73145 | Reproduction equipment with focusing screen adjustment. Part lists and drawings. 1938. In German. | $21.50 |
| 4681-4699 PB L 73145 | Photo printing frame size 10 x 8 inch and 18 x 24 cm. Parts list and drawings. 1932. In German. | 2.00 |
| 4700-4735 PB L 73145 | Short distance range finder, 5.5 cm base. Parts list and drawings. 1935. In German. | 4.00 |
| 4736-4753 PB L 73145 | Universal panoramic tripod head. Parts list and drawings. 1934. In German. | 2.00 |
| 4754-4811 PB L 73145 | Accessories for objective f = 13.5 cm. Parts list and drawings. 1932. In German. | 6.00 |
| 4812-4852 PB L 73145 | Telescopic view finder for miniature film camera. Parts list and drawings. 1933. In German. | 4.50 |
| 4853-4855 4897-4980 PB L 73145 | Miniature film camera with retardation equipment. Drawings. 1933. In German. | 9.50 |
| 4856-4892 PB L 73145 | Auxiliary camera. Parts list and drawings. 1934. In German. | 14.00 |
| 4981-5008 PB L 73145 | Wide-angle view finder f = 3.5 cm. Parts list and drawings. 1933. In German. | 3.00 |
| 5009-5027 PB L 73145 | Reproduction stand. Parts list and drawings. 1933. In German. | 2.00 |
| 5028-5175 PB L 73145 | Objective 1 : 4.5 f = 20 cm. Parts list and drawings. 1937. In German. | 15.00 |
| 5176-5290 PB L 73145 | Range finder, 300 mm base. Parts list and drawings. 1933. In German. | 11.50 |
| 5291-5311 PB L 73145 | Hektor objective 1 : 4.5 f = 15.5 cm. Parts list and drawings. 1935. In German. | 2.50 |
| 5312-5335 PB L 73145 | Ring illumination for reproduction purposes. Parts list and drawings. 1933. In German. | 2.50 |

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|---|---|---|
| 5336-5396<br>PB L 73145 | Screw type retardation equipment. Parts list and drawings. 1933. In German. | 6.50 |
| 5397-5467<br>PB L 73145 | Enlargement apparatus for 6½ x 8 cm. Parts list and drawings. 1939. In German. | 7.50 |

PB L 73144. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Parts lists and drawings for cameras, enlargers, etc. (FIAT Microfilm Reel I 24, Frames 3604-4463) 1931-1941. 860 f. Price: Microfilm-$6.00 - Enlargement print-$86.00. This FIAT microfilm reel consists of parts lists and technical drawings for cameras, photoprinting equipment, projection apparatus and their accessories. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 3604-3626<br>PB L 73144 | Film developing tank. Parts list and drawings. 1932. In German. | $ 2.50 |
| 3627-3637<br>PB L 73144 | Tiltable view finder. Parts list and drawings. 1931. In German. | 1.50 |
| 3638-3680<br>PB L 73144 | Photoprinting frame for pictures 13x18 cm. Parts list and drawings. 1933. In German. | 4.50 |
| 3681-3724<br>PB L 73144 | Reading stand. Parts list and drawings. 1932. In German. | 5.00 |
| 3725-3805<br>PB L 73144 | Miniature film camera with automatic focusing. Parts list and drawings. 1931-1932. In German. | 8.50 |
| 3806-3814<br>PB L 73144 | Photoprinting apparatus for 5x5 cm diapositives. Parts list and drawings. 1932. In German. | 1.50 |
| 3815-3837<br>PB L 73144 | Equipment for life-size photography with Elmar objective f=5 cm. Parts list and drawings. 1931. In German. | 2.50 |
| 3838-3851<br>PB L 73144 | View-finder focusing arrangement with a loupe. Parts list and drawings. 1931. In German. | 1.50 |
| 3852-3883<br>PB L 73144 | Hektor objective 1:1.9 f=7.3 cm. Parts list and drawings. 1931. In German. | 3.50 |
| 3884-3914<br>PB L 73144 | Tiltable universal view finder with a diaphragm. Parts list and drawings. 1933. In German. | 3.50 |
| 3915-3971<br>PB L 73144 | Objective for miniature film camera, 1:6.3 f=10.5 cm. Parts list and drawings. 1932. In German. | 6.00 |
| 3972-3998<br>PB L 73144 | Focusing equipment for objective f=5 cm. Drawings. 1933. In German. | 3.00 |
| 3999-4007<br>PB L 73144 | Focusing equipment for objectives f=3.5 cm. Parts list and drawings. 1933. In German. | 1.50 |
| 4008-4200<br>PB L 73144 | Variable enlargement apparatus. Parts lists and drawings. 1939. In German. | 19.50 |
| 4201-4207<br>PB L 73144 | Angle computer for cameras with automatic focusing. Parts list and drawings. 1939. In German. | 1.50 |
| 4208-4233<br>PB L 73144 | Frame view finder. Parts list and drawings. 1936. In German. | 3.00 |
| 4234-4385<br>PB L 73144 | Miniature film camera for 10 m. films. Parts list and drawings. 1941. In German. | 5.50 |
| 4386-4405<br>PB L 73144 | Enlargement apparatus for pictures 40x50 cm. Parts list, drawings and photograph. 1936. In German. | 1.50 |
| 4406-4438<br>PB L 73144 | Photoprinting frame for size 30x40 cm. = 12x15 in. Parts list and drawings. 1932. In German. | 3.50 |
| 4439-4463<br>PB L 73144 | Reproduction apparatus for miniature film camera for 10 m. film. Parts list and drawings. 1940. In German. | 2.50 |

PB L 73146. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Parts lists and drawings for cameras, objectives, enlargers and accessories. (FIAT Microfilm Reel I-26, Frames 5474-6447) 1934-1939. 974 f. Price: Microfilm-$6.00. Enlargement print-$97.50.
This FIAT microfilm reel consists of parts lists and technical drawings for enlargers, cameras, objectives and photographic accessories as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. Many frames, especially those showing drawings, will not reproduce well and the last 383 frames are illegible.

| Frames | Title | Price |
|---|---|---|
| 5474-5485<br>PB L 73146 | Table stand. Parts list and drawings. 1933. In German. | $1.50 |
| 5486-5500<br>PB L 73146 | Large ball-and socket head. Parts list and drawings. 1936. In German. | 1.50 |
| 5501-5502<br>5887-5904<br>PB L 73146 | Variable enlarger 6½ x 9 cm. Parts list and drawing. 1934. In German. | 2.00 |
| 5503-5629<br>PB L 73146 | Film developing tank. Drawings. 1939. In German. | 3.00 |
| 5630-5715<br>PB L 73146 | Objective 1 : 5.0 f=40 cm. Parts list and drawings. 1936. In German. | 9.00 |
| 5716-5802<br>PB L 73146 | News camera, Leica Model III. Parts list and drawings. 1934. In German. Some frames may not reproduce well. | 9.00 |
| 5803-5829<br>PB L 73146 | Objective 1 : 2.2 f=9 cm. Parts list and drawings. 1934. In German. Some frames indistinct. | 3.00 |
| 5830-5842<br>6110-6120<br>PB L 73146 | Hektor objective f=13.5 cm for reflex camera. Parts list and drawings. 1934. In German. Many illegible frames. | 2.50 |
| 5843-5886<br>PB L 73146 | Auxiliary wedge for an automatic camera. Parts list and drawings. 1934. In German. | 4.50 |
| 5905-5915<br>6052-6060<br>PB L 73146 | Objective f=9 cm for universal reproduction apparatus. Parts list and drawing. 1935. In German. Many drawings indistinct. | 2.00 |
| 5916-5926<br>PB L 73146 | Summar objective 1 : 1.5 f=5 cm. Parts list and drawings. 1934. In German. Some frames will not reproduce well. | 1.50 |
| 5927-5980<br>PB L 73146 | Rapid winder. Parts list and drawings. 1938. In German. Indistict drawings. | 5.50 |
| 5981-6005<br>PB L 73146 | Short distance range finder. Drawings. 1938. In German. Will not reproduce well. | 1.50 |

6006-6041 Objective 1 : 6.3 f=2.8 cm. Parts list and drawings. n.d. In German. 4.00
PB L 73146 Drawings illegible.

6042-6051 Stand with cassette for dispositive plates 6 x 6 cm. Parts list and drawings. 1934. In German. 1.50
PB L 73146 Some drawings indistinct.

6061-6095 Screw-operated retardation equipment. n.d. In German. 3.50
PB L 73146 Illegible.

6096-6109 Objective 1 : 1.9 f=7.3 cm. for universal reproduction apparatus. Parts list and illegible drawings. 1936. In German. 1.50
PB L 73146

6121-6164 Automatic release. Parts list and illegible drawings. n.d. In German. 4.50
PB L 73146

6165-6447 Illegible.
PB L 73146

PB L 73141. LEITZ, ERNST, G. M. B. H., WETZLAR, GERMANY. Parts lists and drawings for cameras, projectors, telescopes, microscopes, etc. (FIAT Microfilm Reel 1 21, Frames 1006-1898) 1928-1946. 893 f. Price: Microfilm-$6.00 - Enlargement print-$89.50.
This FIAT microfilm reel consists of parts lists and drawings for cameras and photographic accessories, microscopes, telescopes, projection apparatus, etc. 107 individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 1006 PB L 73141 | Reading stand. Drawing. 1932. In German. | $ 1.50 |
| 1007-1008 PB L 73141 | Photographic printing apparatus. Drawings. 1932. In German. | 1.50 |
| 1009-1010 1044-1046 PB L 73141 | Miniature film camera with automatic sharp focusing. Drawings. 1943. In German. | 1.50 |
| 1011-1019 PB L 73141 | Focusing arrangement for objectives f=5 cm. Parts list and drawings. 1943. In German. | 1.50 |
| 1020 PB L 73141 | Frame view finder. Drawing. n. d. In German. | 1.50 |
| 1021-1023 PB L 73141 | Miniature film camera for 10 meter film strips. Drawings. 1942. In German. | 1.50 |
| 1024-1025 PB L 73141 | Enlargement apparatus. Drawings. 1938. In German. | 1.50 |
| 1026 PB L 73141 | Auxiliary camera. Drawing. 1939. InGerman. | 1.50 |
| 1027-1028 PB L 73141 | Camera slide for reproduction exposures. Drawings. 1937. In German. | 1.50 |
| 1029-1039 PB L 73141 | Photoprinting frame for 10 x 8 in. or 18 x 24 cm. Drawing and parts list. 1935. In German. | 1.50 |
| 1040-1043 PB L 73141 | Wide-angle view finder. Parts list. 1939. In German. | 1.50 |
| 1047-1049 PB L 73141 | Range finder for short distances, base 3.5 cm. Parts list. 1942. In German. | 1.50 |
| 1050-1055 1077-1080 | Variable enlargement apparatus for 6.5 x 9 cm. Drawings. 1938. | |
| 1103-1121 PB L 73141 | In German. | 3.00 |
| 1066-1067 PB L 73141 | Range finder, 300 mm base. Drawings. 1932. In German. May not reproduce well. | 1.50 |
| 1068-1075 PB L 73141 | Film development tank. Parts list. 1937. In German. | 1.50 |
| 1076 PB L 73141 | Objective 1:5 f=40 cm. Drawing. 1936. In German. | 1.50 |
| 1081-1083 PB L 73141 | View camera. Drawings. 1934. In German. | 1.50 |
| 1084-1085 PB L 73141 | Tiltable frame for photographic printing apparatus. Drawings. 1938. In German. | 1.50 |
| 1086-1089 PB L 73141 | Daylight film development tank. Drawings. 1935. In German. | 1.50 |
| 1090 PB L 73141 | Stand with cassette for 8 x 8 cm dispositive plates. Drawing. 1934. In German. | 1.50 |
| 1091 PB L 73141 | Objective 1:6, 3 f=2.8 cm. Drawing. 1934. In German. | 1.50 |
| 1092-1100 PB L 73141 | Spring winding for Leica camera. Parts list. 1937. In German. | 1.50 |
| 1101-1102 PB L 73141 | Photoprinting frame for 7.5 x 10.5 cm. Drawing. 1933. In German. | 1.50 |
| 1122 PB L 73141 | Objective 1:1.5 f=5 cm. Drawing. 1937. In German. | 1.50 |
| 1123-1131 PB L 73141 | Reproduction and enlargement apparatus with automatic focusing. Drawings. 1935. In German. | 1.50 |
| 1132 PB L 73141 | Lever release. Parts list. n.d. In German. | 1.50 |
| 1133-1135 PB L 73141 | Developing vessel. Drawings. 1938. In German. | 1.50 |
| 1136-1140 PB L 73141 | Camera runners for reproduction apparatus. Drawings. 1936. In German. | 1.50 |
| 1141-1153 1255-1268 PB L 73141 | Miniature film camera Model 1. Parts list and drawings. 1937. In German. | 3.00 |
| 1154-1160 PB L 73141 | Objective 60 cm. Parts list and drawings. 1937. In German. | 1.50 |
| 1161-1165 1170-1171 PB L 73141 | "Eldia" photoprinting apparatus. Drawings and parts list. 1938. In German. | 1.50 |
| 1166-1169 PB L 73141 | Miniature film camera with automatic release. Parts list. 1937. In German. | 1.50 |
| 1172-1210 1212-1215 PB L 73141 | Enlargement apparatus Focomat 1a. Parts list and drawings. 1938. In German. | 4.50 |
| 1211 PB L 73141 | Frame view finder for objective f=20 cm. Drawing. 1936. In German. | 1.50 |
| 1216-1238 PB L 73141 | Automatic winder for camera for 10 m film strips. Parts list and drawings. 1941. In German. | 2.50 |
| 1239-1245 PB L 73141 | Illumination box 13 x 18 cm. Parts list and drawings. 1937. In German. | 1.50 |
| 1246-1254 PB L 73141 | Camera for stereoscopic pictures. Parts list and drawings. 1940. In German. | 1.50 |
| 1269-1270 PB L 73141 | Polarization diaphragm. Drawing and parts list. 1937. In German. | 1.50 |

1271-1274 PB L 73141 — Adjustable negative holder for Focomat enlargement apparatus. Parts list and drawings. 1937. In German. 1.50

1275 PB L 73141 — Loop holder. Parts list. 1937. In German. 1.50

1276-1281 PB L 73141 — Illumination boxes 13 x 18 cm, 30 x 40 cm and 24 x 30 cm. Parts lists and drawing. 1939. In German. 1.50

1282-1294 PB L 73141 — Storage cases for photographic paper sizes 2.5 x 3.5 in, 4 x 6 in, 6.5 x 9 in. Parts lists and drawings. 1939. In German. 1.50

1295-1310 PB L 73141 — Reflex camera for microphotography. Drawings and parts list. 1940. In German. 2.00

1311-1312 PB L 73141 — "Askania" motion-picture camera. Parts list. 1941. In German. 1.50

1313-1322 PB L 73141 — Summitar objective 1:2 f=5 cm. Parts list and drawings. 1939. In German. 1.50

1323-1335 PB L 73141 — Enlargement apparatus. Focomat 1b. Parts list. 1935. In German. 1.50

1336-1361 PB L 73141 — Folding reproduction apparatus. Drawings and parts list. 1938. In German. 3.00

1362-1367 PB L 73141 — Leica reflex camera on large stand. Parts list and drawing. 1938. In German. 1.50

1368-1370 PB L 73141 — Summar objective 1:0,85 f=7.5 cm. Drawings. 1938. In German. 1.50

1371-1372 PB L 73141 — Loupe for film examination. Parts list. 1941. In German. 1.50

1373-1376 PB L 73141 — Illumination box 40 x 50 cm. Parts list. 1938. In German. 1.50

1377-1383 PB L 73141 — Filter storage case. Parts list. 1938. In German. 1.50

1384-1385 PB L 73141 — Diving bell for Leica for 10 m film strips. Parts list. 1940. In German. 1.50

1386-1391 PB L 73141 — Auxiliary camera for films and plates sizes 5 x 5 cm and 4 1/2 x 6 cm. Parts list. n. d. In German. 1.50

1392-1400 PB L 73141 — Spring operated film winding device for Leica camera. Parts list. 1938. In German. 1.50

1401-1407 PB L 73141 — Objective 1: 3,5 f=3,5 cm. Parts list and drawings. 1938. In German. 1.50

1408 PB L 73141 — Objective 1: 3,5 f=15 mm. Parts list. 1945. In German. 1.50

1409-1411 PB L 73141 — Glare prevention diaphragm for Xenon objective. Parts list. 1945. In German. 1.50

1412 PB L 73141 — Glare prevention diaphragm for Summitar objective. Parts list. 1945. In German. 1.50

1413 PB L 73141 — Polarisation head for projection apparatus. Type VIIIa. Parts list. 1945. In German. 1.50

1414-1418 PB L 73141 — Stereoscopic prism mounting. Parts list and drawings. 1945. In German. 1.50

1419 PB L 73141 — Camera for pictures size 18 x 24 cm. Drawing. 1942. In German. 1.50

1420-1422 1429-1436 PB L 73141 — Sports view-finder 5 cm (dye-cast). Parts list and drawing. 1946. In German. 1.50

1423-1428 PB L 73141 — Infrared objective 1:0,85 f=7.5 cm. Parts list and drawings. 1941. In German. 1.50

1437-1446 PB L 73141 — Objective 1: 1.5 f=6.5 cm. Parts list and drawings. 1940. In German. 1.50

1447-1449 PB L 73141 — Sports view finder, 13.5 cm. Parts list and drawing. 1946. In German. 1.50

1450-1452 PB L 73141 — Sports view finder 7.3 cm. Parts list and drawing. 1946. In German. 1.50

1453-1472 PB L 73141 — Stereoscopic loupe. Parts list and drawings. 1942. In German. 2.00

1473-1474 PB L 73141 — Stereoscopic polarisation attachment. Parts list. 1940. In German. 1.50

1475 PB L 73141 — Stereotelescopic view finder. Parts list. 1940. In German. 1.50

1476-1481 PB L 73141 — Stereoscopic prism head 1:2.5 f=3.5 cm. with filter. Parts list and drawings. 1940. In German. 1.50

1482-1484 PB L 73141 — Stereoscopic objective 1:2.5 f=3.5 cm. Parts list. 1940. In German. 1.50

1485-1490 PB L 73141 — Auxiliary device for Summitar objective. Parts list and drawings. 1939. In German. 1.50

1491-1497 PB L 73141 — Ettre ever-ready carrying case. Parts list and drawings. 1939. In German. 1.50

1498-1520 PB L 73141 — Telescope 15 x 90. Parts list and drawings. 1943. In German. 2.50

1521-1526 PB L 73141 — Precision measuring ocular. Parts list. 1941. In German. 1.50

1527-1528 PB L 73141 — Wide-angle ocular 90° f=26 mm. Parts list. 1944. In German. 1.50

1529-1530 PB L 73141 — Objective 18. Parts list and drawing. 1939. In German. 1.50

1531 PB L 73141 — Objective 12S. Parts list. 1937. In German. 1.50

1532 PB L 73141 — Objective 14S. Parts list. 1937. In German. 1.50

1533-1542 PB L 73141 — Microtome for hard specimens. Parts list and drawings. 1946. In German. 1.50

1543-1545 PB L 73141 — Gauge for concrete comparator. Parts list and drawings. 1946. In German. 1.50

1546-1569 1652-1655 PB L 73141 — Workshop microscope. Parts list and drawings. 1938-1941. In German. 3.00

1570-1594 PB L 73141 — Measuring microscope. Parts list and drawings. 1942. In German. 2.50

1595-1603 PB L 73141 — Simple measuring microscope. Parts list and drawings. 1938. In German. 1.50

1604-1606 PB L 73141 — Projection stand. Parts list. n.d. In German. 1.50

1607-1617 PB L 73141 — Measuring microscope for use with tooling machines. Parts list and drawings. 1942. In German. 1.50

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|---|---|---|
| 1618-1630<br>PB L 73141 | Horizontal comparator. Parts list and drawings. 1938. In German. | 1.50 |
| 1631-1632<br>PB L 73141 | Simple goniometric ocular. Parts list. 1941. In German. | 1.50 |
| 1633-1651<br>PB L 73141 | Center punch. Parts list and drawings. 1943. In German. | 2.00 |
| 1656-1669<br>1727-1736<br>PB L 73141 | Profile projection and drawing apparatus with accessories. Parts lists and drawings. 1937. In German. | 2.50 |
| 1670-1726<br>PB L 73141 | Focusing screen projection apparatus. Parts list and drawings. 1942. In German. | 6.00 |
| 1737-1752<br>PB L 73141 | Ergoscope. Parts list and drawings. 1937. In German. | 2.00 |
| 1753-1754<br>PB L 73141 | Arrangement for measuring cutting edges. Parts list. 1937. In German. | 1.50 |
| 1755<br>PB L 73141 | Alignment gauge. Parts list. 1941. In German. | 1.50 |
| 1756-1764<br>PB L 73141 | Simple projection equipment. Parts list and drawing. 1938. In German. | 1.50 |
| 1765-1777<br>PB L 73141 | Plane table 50 B. Parts list and drawings. 1938. In German. | 1.50 |
| 1778-1802<br>PB L 73141 | Bench for profile projection apparatus. Parts list and drawings. 1932. In German. | 2.50 |
| 1803-1808<br>PB L 73141 | Reflex optics. Parts list and drawings. 1943. In German. | 1.50 |
| 1809-1815<br>PB L 73141 | Accessories for projection microscope. Drawings. 1928. In German. | 1.50 |
| 1816-1819<br>PB L 73141 | Simple goniometer. Drawings. 1935. In German. | 1.50 |
| 1820<br>PB L 73141 | Device for measuring the thickness of layers. Parts list. 1937. In German. | 1.50 |
| 1821-1823<br>PB L 73141 | Opak-Ultropak combination. Drawings. 1931. In German. | 1.50 |
| 1824<br>PB L 73141 | Case for relief condensor. Drawing. 1935. In German. | 1.50 |
| 1825-1833<br>PB L 73141 | "Askania" microfilm motion-picture apparatus. Drawings. 1928. In German. | 1.50 |
| 1834<br>PB L 73141 | Diaphragm on stand. Drawing. 1930. In German. | 1.50 |
| 1835-1886<br>1893-1902<br>PB L 73141 | Universal differential dilatometer UDD and UDDA. Parts list and drawings. 1940. In German. | 6.50 |
| 1887-1898<br>PB L 73141 | Tyndall meter. Drawings. 1930. In German. | 1.50 |

PB L 73147. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Parts lists and drawings for enlargers, cameras, view finders and accessories. (FIAT Microfilm Reel I 27, Frames 6454-7441) 1935-1944. 988 f. Price: Microfilm-$6.00 - Enlargement print-$99.00.
This FIAT microfilm reel consists of parts lists and drawings for cameras, photographic enlargers, view finders and their accessories as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 6454-6486<br>PB L 73147 | Reproduction and enlargement apparatus. Parts list and drawings. 1937. In German. | $ 3.50 |
| 6487-6549<br>PB L 73147 | Leitz-Xenon objective 1:1.5 f=5 cm. Parts list and drawings. 1935. In German. | 6.50 |
| 6550-6564<br>PB L 73147 | Sports view finders 7.5 cm, 10.5 cm and 13.6 cm. Parts lists and drawings. 1936. In German. | 1.50 |
| 6565-6587<br>PB L 73147 | Camera stand with accessories for reproduction photography. Parts list and drawings. 1935. In German. | 2.50 |
| 6588-6600<br>PB L 73147 | View finder for an automatic camera f=3.5 cm. Parts list and drawings. 1937. In German. | 1.50 |
| 6601-6613<br>PB L 73147 | Lever release. Parts list and drawings. 1939. In German. | 1.50 |
| 6614-6824<br>PB L 73147 | Enlargement apparatus 6 1/2 x 9 cm with automatic sharp focusing. Parts list and drawings. 1936. In German. | 21.50 |
| 6825-6838<br>PB L 73147 | Photoprinting apparatus with fixed frame stencil. Parts list and drawings. 1936. In German. | 1.50 |
| 6839-6840<br>PB L 73147 | Development tank. Parts list and sketch. 1936. In German. | 1.50 |
| 6841-6887<br>PB L 73147 | Camera sliding arrangement for reproduction purposes. Parts list and drawings. 1937. In German. | 5.00 |
| 6888-6901<br>PB L 73147 | Miniature film camera Model 1 (dye-cast). Drawings. 1937. In German. | 1.50 |
| 6902-6922<br>PB L 73147 | Frame view finder for objectives f=5 cm. Parts list and drawings. 1937. In German. | 2.50 |
| 6923-7050<br>PB L 73147 | Focomat 1a enlarger. Drawings. 1938. In German. | 3.00 |
| 7051-7097<br>PB L 73147 | Miniature film camera with automatic release. Drawings. 1939. In German. | 4.00 |
| 7098-7164<br>PB L 73147 | Objective f=60 cm. Drawings. 1937. In German. | 7.00 |
| 7165-7279<br>PB L 73147 | Automatic winding for 10 m. film Leica camera. Drawings. 1944. In German. | 11.50 |
| 7280-7351<br>PB L 73147 | Objective 1:1.5 f=6.5 cm. Drawings. 1937. In German. | 7.50 |
| 7352-7367<br>PB L 73147 | Polarization diaphragm. Drawings. 1937. In German. | 2.00 |
| 7368-7399<br>PB L 73147 | Illumination box 13 x 18 cm. Drawings. 1937. In German. | 3.50 |
| 7400-7441<br>PB L 73147 | Stereoscopic camera, objective 1: 3.5 f=3.5 cm. Drawings. 1937. In German. | 4.50 |

PB L 73149. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Parts lists and drawings for lenses, goniometers, dilatometers etc. (FIAT Microfilm Reel I-29, Frames 8333-9044) 1929-1938. 712 f. Price: Microfilm-$6.00 - Enlargement print-$71.50.
This FIAT microfilm reel consists of parts lists and technical drawings for condensers, lenses, projection apparatus,

goniometers and other optical instruments, and accessories. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 8333-8363 PB L 73149 | Relief condenser. Parts list and drawings. 1935. In German. | $3.50 |
| 8364-8371 PB L 73149 | Objective 1 x for cylinder examination. Parts list and drawings. 1935. In German. | 1.50 |
| 8372-8402 PB L 73149 | Condenser with objective UO 1.5/L 110, UO 2/L 90, and UO 3/L 60. Parts lists and drawings. 1935. In German. | 3.50 |
| 8403-8427 PB L 73149 | Condenser for objective UO 13/ L 15 and UO 20/L 15. Parts list and drawings. 1935. In German. | 2.50 |
| 8428-8431 PB L 73149 | Optical work bench with a lamp for projectors. Parts list and drawing. 1939. In German. | 1.50 |
| 8432-8567 PB L 73149 | Projection apparatus. Parts lists and drawings. 1929. In German. | 4.00 |
| 8568-8585 PB L 73149 | Goniometer. Parts list and drawings. 1937. In German. | 2.00 |
| 8586-8649 PB L 73149 | Simple goniometer. Parts list and drawings. 1937. In German. | 6.50 |
| 8650-8653 PB L 73149 | Focusing device for focusing screen observation. Drawings. n.d. In German. | 1.50 |
| 8654-8654 8956-8957 PB L 73149 | Universal differential dilatometer UDD & UDDA. Temperature tables parts lists and drawings. 1931. In German. | 20.50 |
| 8655-8868 8870-8955 8958-8959 PB L 73149 | Simple dilatometer. Parts list and drawings. 1932-1935. In German. | 10.50 |
| 8969 9015-9024 PB L 73149 | Dilatometer calibration instrument. Drawings. 1935. In German. | 1.50 |
| 8960-8992 PB L 73149 | Electric furnace for dilatometers. Parts list and drawings. 1938. In German. | 3.50 |
| 8993-9014 PB L 73149 | Microprojection apparatus with 20 x 20 cm focusing screen. Parts list and drawings. 1930. In German. | 2.50 |
| 9025-9044 PB L 73149 | Projection equipment for Siebert, Hanau. Parts list and drawings. 1930. In German. | 2.00 |

PB L 73140. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Parts lists and drawings for projection apparatus, microscopes, cameras, etc. (FIAT Microfilm Reel I 20, Frames 4-999) 1924-1942. 996 f. Price: Microfilm-$6.00 Enlargement print-$100.00.

This FIAT microfilm reel consists of parts lists and drawings for projection apparatus, microscopes, cameras, range and view finders and accessories for these instruments. 72 individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 4-13 PB L 73140 | Horizontal diapositive projection and writing attachment. Drawings. 1937. In German. | $ 1.50 |
| 14-16 PB L 73140 | Diapositive attachment. Drawings. 1934. In German. | 1.50 |
| 17-18 PB L 73140 | Vertical and horizontal diapositive attachment. Drawings. 1934. In German. | 1.50 |
| 19-24 PB L 73140 | Trichinoscope Type IX p. Drawings. 1932. In German. | 1.50 |
| 25-29 PB L 73140 | Test-tube attachment with reversing prism. Parts list. 1937. In German. | 1.50 |
| 30-58 74-78 100-101 PB L 73140 | Projection apparatus Type V h 1. Parts list and drawings. 1937. In German. | 4.00 |
| 59-66 PB L 73140 | Projection apparatus Type V x. Parts list. 1937. In German. | 1.50 |
| 67-73 PB L 73140 | Projection apparatus Type V p. Parts list. 1937. In German. | 1.50 |
| 79-81 PB L 73140 | Post-card projection exchanger. Drawings. 1931. In German. | 1.50 |
| 82-102 PB L 73140 | Projection apparatus Type V p 2. Drawings. 1934. In German. | 2.50 |
| 103-113 PB L 73140 | Diapositive projection apparatus Type IV 1. Parts list. 1939. In German. | 1.50 |
| 114-166 PB L 73140 | Projection apparatus type III M 2 and Type III MS. Parts lists. n.d. In German. May not reproduce well. | 5.50 |
| 167-182 PB L 73140 | Projection apparatus Type III. Parts list. 1940. In German. | 2.00 |
| 183-190 PB L 73140 | Projection apparatus. Type III a. 1940. In German. | 1.50 |
| 191 PB L 73140 | Illegible. | |
| 192-194 PB L 73140 | Projection apparatus Type III L. Drawings. n. d. In German. May not reproduce well. | 1.50 |
| 195-206 PB L 73140 | Simple horizontal slide projector. Drawings. n. d. In German. | 1.50 |
| 207-218 PB L 73140 | Projection apparatus Type IV r. Drawings. 1934. In German. | 1.50 |
| 219-223 PB L 73140 | Workshop control projector Type XIV d. Parts list. 1941. In German. | 1.50 |
| 224-227 PB L 73140 | Viewer for projectors Type VIII s and VIII e. Parts lists. 1938. In German. May not reproduce well. | 1.50 |
| 228-246 PB L 73140 | X-ray "Diagnostor". Parts list and drawings. 1939. In German. Indistinct. | 2.00 |
| 247-249 PB L 73140 | Stereoprojection attachment. Parts list and drawing. 1940. In German. | 1.50 |
| 250-269 PB L 73140 | Microscope with a tiltable tube. Drawings. 1938. In German. | 2.00 |
| 270-272 PB L 73140 | Opak illuminator with accessories. Drawings. 1923. In German. | 1.50 |

273-276 PB L 73140 — Accessories for central microscope stand 1924/1929. Drawings. 1929. In German. 1.50

277-278 PB L 73140 — Large hand press. Drawings. 1936. In German. 1.50

279-407 PB L 73140 — Large metallographic microscope Epiphot model 1938. Parts lists and drawings. 1937-1939. In German. 14.00

408-412 PB L 73140 — Prism surface testing apparatus. Parts list and drawing. 1940. In German. 1.50

413-421 PB L 73140 — Optical bench with tilting arrangement. Parts list and drawings. 1937. In German. 1.50

422-442 PB L 73140 — Camera 18x18 cm for metallographic microscope MM 1936. Parts list and drawings. 1939. In German. 2.50

443-547 PB L 73140 — Accessories for metallographic microscope MM 1939. Parts lists and drawings. 1939-1940. In German. 10.50

548-549 PB L 73140 — Microscopic tensilestrength testing equipment. Parts list. 1939. In German. 1.50

550-557 PB L 73140 — Surface testing equipment. Parts list and drawings. 1942. In German. 1.50

558-572 PB L 73140 — Opak illuminator for Ortholux projectors. Parts list and drawings. 1940. In German. 1.50

573 PB L 73140 — Leica reflex camera for metallographic microscope MM 1940. Parts list. In German. 1.50

574-575 PB L 73140 — Projector objectives I and II, f = 75mm and 70 mm respectively. Parts lists. 1939. In German. 1.50

576-578 PB L 73140 — Holder for a ring illumination with horizontal displacements. Parts list and drawings. 1939. In German. 1.50

579-585 PB L 73140 — Projection and drawing apparatus. Drawings. 1922. In German. 1.50

586-593 PB L 73140 — Monochromator with great light-transmitting power. Drawings. n. d. In German. Indistinct. 1.50

594-595 PB L 73140 — Microscope with a rotary filter changer. Drawings. 1940. In German. 1.50

596-748 758-794 PB L 73140 — Leifo color mixing equipment and other Leifo accessories. Drawings and parts lists. 1941. In German. 9.00

749 PB L 73140 — Hemoglobinometer. Drawings. 1927. In German. 1.50

750-754 PB L 73140 — Colorimeter. Drawings. 1927. In German. 1.50

755-757 PB L 73140 — Test glass comparison spectroscope. Drawings. 1941. In German. 1.50

795 PB L 73140 — Blood counting cell according to Metz. Parts list. 1938. In German. 1.50

796-832 PB L 73140 — Platinizing equipment. Drawings and parts list. 1938-1939. In German. 4.00

833-834 PB L 73140 — Kinesimeter ("Hemikinesimeter"). Drawings. 1927. In German. 1.50

835 PB L 73140 — Equipment for eardrum examination. Drawing. 1937. In German. 1.50

836-864 PB L 73140 — Polarimeters A, B and C with equipment and lamps. Parts lists and drawings. n. d. In German. 3.00

865-869 PB L 73140 — 100 watt microscope lamp. Parts lists and drawings. 1941. In German. 1.50

870-871 PB L 73140 — Table lamp with centering arrangement. Parts list and drawing. 1941. In German. 1.50

872-888 930-931 941 PB L 73140 — 6 V 5 amp. lamp. Parts list and drawings. 1937. In German. 2.00

889-896 932-936 PB L 73140 — Table arc-lamp with variable illumination. Parts list. 1940. In German. 1.50

897-898 937 PB L 73140 — Spherical table lamp with a columnar stand. Parts list. 1941. In German. 1.50

899-900 PB L 73140 — "Mignon" lamp with a triple joint. Parts list. 1941. In German. 1.50

901-909 913 926-929 PB L 73140 — "Liliput" arc lamp. Drawings. 1928. In German. 1.50

910 PB L 73140 — Luminescent arc lamp. Drawing. 1941. In German. 1.50

911-912 PB L 73140 — Opal ring illumination for microscopy. Drawings. 1930. In German. 1.50

914 PB L 73140 — Microscope lamp with two-way displacement. Drawing. 1930. In German. 1.50

915-924 PB L 73140 — Arc lamp for Ultropak. Drawings. 1932. In German. 1.50

925 PB L 73140 — Variable illumination equipment with an instantaneous shutter. Drawing. 1933. In German. 1.50

936-940 PB L 73140 — Sodium lamp. Parts lists. Date indistinct. In German. 1.50

942 PB L 73140 — Special Leitz lamp for 12 v 100 watt. Parts list. 1940. In German. 1.50

943 PB L 73140 — Illumination lenses. A list. 1939. In German. 1.50

944-947 PB L 73140 — 6 V 5 amp. lamp on a rider. Drawings and parts list. 1939. In German. 1.50

948-950 PB L 73140 — Short-range finder. Parts list. 1942. In German. 1.50

951-958 979-992 PB L 73140 — Miniature film camera. Drawings and parts list. 1948. In German. 2.50

959-960 PB L 73140 — Range finder with a 40 cm base. Drawings. 1925. In German. 1.50

961-970 PB L 73140 — Compur camera. Parts list and drawings. 1938. In German. 1.50

971-977 PB L 73140 — Enlargement apparatus for Leica camera. Drawings. 1927. In German. 1.50

978 PB L 73140 — Panoramic tripod head. Parts list. n. d. In German. 1.50

993-994 PB L 73140 — Variable enlarger. Drawing. 1937. In German. 1.50

995-999 PB L 73140 — Ever-ready carrying case. Parts list and drawings. 1937. In German. 1.50

PB L 74151. STENGER, E. AND STAUDE, H., eds. Progress of photography, volume 3. (FIAT Microfilm Reel OC 204, Frames 1-187) 1944. 187 f. Price: Microfilm-$2.75 - Enlargement print-$19.00.
This reel prepared by FIAT investigators in Germany consists of various articles from vol. III of the above book, published by "Akademische Verlagsgesellschaft Becker-Erlet K. G., Leipzig" 1944. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $2.75. Please include PB and frame numbers when ordering individual items. In German. These items will not reproduce well.

| Frames | Title | Price |
|---|---|---|
| 1-43 PB L 74151 | The latent picture. By Walter Meidinger. In German. | $ 4.50 |
| 43-63 PB L 74151 | Granulation and resolving capacity. By Helmuth Friesser. In German. | 2.50 |
| 63-96 PB L 74151 | Physical chemistry of sensitizing. By Helmuth Friesser. In German. | 3.50 |
| 97-119 PB L 74151 | The subtractive multi-layer process of color photography. By Wilhelm Schneider and Richard Sperling. In German. | 2.50 |
| 119-129 PB L 74151 | Photographic papers (1938-1941). By Edith Weide. In German. | 1.50 |
| 129-141 PB L 74151 | Photographic action of corpuscular rays. By Walter Meidinger. In German. | 1.50 |
| 141-152 PB L 74151 | Diaso type process. By Maximillian P. Schmidt. In German. | 1.50 |
| 152-158 PB L 74151 | Optics for photography. By Karl Leistner. In German. | 1.50 |
| 158-187 PB L 74151 | Stationary projector. By Helmuth Schering. In German. | 3.00 |

PB L 17552-S. MOHN, H. and RUTHARDT, K. Report on the manufacture of periscopes from optical quarts glass. 1945. (Exhibit #7, Supp to FIAT Final Report 536, PB 17552). Oct 1945. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a supplement to the report "Fused quartz manufacture in Germany" by Gross (PB 17552 on page 1204 of volume 1 of the Bibliography). The present report describes the individual steps in the manufacture of periscopes, (1) selection and preparation of the quartz crystals, (2) preparation of the raw materials for optical quarts glass, (3) forming and treatment of the molten raw materials, and (4) fusing the processed glass plates. In German.

PB L 79559. SCHNEIDER, WILHELM. The Agfacolor process. (FIAT Final Rept 976). n. d. 169 p. Price: Hmeo-$4.25
This report gives detailed information on color photography and especially on the Agfacolor process. It was written not only for scientists and experts, but will be of value to anyone interested in color photography. During the past ten years, the I.G. Farbenindustrie A. G. in Germany has elaborated considerably on the Agfacolor process. They have proved very successful in producing a relatively simple and efficient method for making natural color photographs. Appendix 1. Bibliography, Appendix 2. List of 85 drawings, diagrams and photographs. In addition to this report several other publications are available on this subject of a more highly technical nature. They are FIAT Final Reports Nos. 721, 943 and 977 (PB 15476; vol. 1, p. 953), (PB 78248; vol. 7, p. 337) and (PB 81274; vol. 7, p. 215) and five microfilm reels which appear in vol. 6, p. 434 of this Bibliography.

## PHYSICS

### General

PB L 82072. U. S. OCCUPATION FORCES IN GERMANY. WEATHER SERVICE, BAD KISSINGEN, GERMANY. Publications in general physics and meteorology. (FIAT Microfilm Reel T 22, Frames 1453-2189) 1936-1943. 737 f. Price: Microfilm-$7.00 - Enlargement print-$75.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $7.00. Please include PB and frame numbers when ordering individual items. In German.

| Frames | Title | Price |
|---|---|---|
| | Changes in the bases of natural sciences. Three lectures given by Werner Heisenberg, published by S. Hirzel, Leipzig, 1936. | |
| 1453-1467 PB L 82072 | Changes in the bases of the exact natural sciences. In German. | $3.00 |
| 1467-1476 PB L 82072 | History of the physical phenomena of nature. In German. | 2.00 |
| 1477-1486 PB L 82072 | Question of principle in modern physics. In German. | 2.00 |
| 1487-1873 PB L 82072 | Textbook of theoretical physics. By G. Joos. 1943. In German. Fifth edition, published by Akademische Verlagsgesellschaft Becker & Erler Kom. Ges., Leipzig. | 40.00 |
| 1874-1950 PB L 82072 | Problems of cosmic physics. Edited by Christian Jensen. Vol. XIX. History of the earth and cosmogony. By Kurt Himpel. 1940. In German. Published by "Akademische Verlagsgesellschaft m.b.H., Leipzig. | 9.00 |

Manual for aeronautical meteorology, edited by R. Habernahl, published by Gebr. Radetski, Berlin, 1942. Vol. 1-3.

| | | |
|---|---|---|
| 1951-2034 PB L 82072 | General meteorology. Vol. 1. In German. | 10.00 |
| 2035-2122 PB L 82072 | Maritime meteorology. Vol. 2. In German. | 10.00 |
| 2123-2189 PB L 82072 | Meteorological measuring devices. Vol. 1. In German. | 8.00 |

PB L 39595. WEST, W. A. Dynamics of plastic deformation. Fifth partial report. (Watertown Arsenal Lab Rept 550/1-4) Jul 1945. 31 p. Price: Microfilm-$1.00 Photostat-$3.00

## PRINTING, PUBLISHING, AND ALLIED INDUSTRIES

* PB L 78219. FALKNER, M. F. L. and HISLOP, WILLIAM B. Printing process used by the Wehrmacht. (BIOS Final Rept 568, Item 31) Mar 1947. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00

This report describes in detail a new printing process used during the war by the "Wehrmacht" for the rapid distribution of reproductions of air-survey photographs etc. The following features are claimed: Speed from receipt of picture to start of printing, 1½ hour to 2 hours; No make-ready; Usable on letterpress, litho, and aniline printing machines; May be printed with good results on stock of newsprint order; and only very light impression required.

* PB L 79448. KENNEDY, A. J. A. Investigation of German printing ink industry. (BIOS Final Rept 1274, Item 22) Jul 1946. 29 p. Price: Microfilm-$1.00 Photostat-$2.00
Seven factories were investigated. To avoid lengthy and unnecessary repetition, the notes on Messrs. Hostmann Steinberg have been given at greatest length and similar items on the other firms have been dealt with very briefly, except where their practice differed widely from that in the larger works. Some typical formulations are included.

PB L 81021. DIE REICHSMESSE. New cylinder presses for newspapers. 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
This document contains photographs of three types of newspaper presses manufactured by Vogtländische Maschinenfabrik A.G., and a book printing machine manufactured by Gebr. Brehmer with brief descriptions. In French. This is a reprint from "Die Reichsmesse" F1 (Techn.) 1944.

*PB L 80385. VOET, ANDRIES. The printing ink industry of Germany. (FIAT Final Rept 1159). Jun 1947. 19 p. Price: Mimeo-$0.50
Among the developments of interest to the American inkmakers are the following: 1. water-based gramure inks, 2. water-based aniline inks, 3. method of applying sigmented aniline inks, and 4. satisfactory offset and letter press inks virtually without drying oils. A number of examples of printing inks of the offset and letter press type are given, taken from the files of different manufacturers. In each case the representative varnishes are included at end.

## TEXTILES AND TEXTILE PRODUCTS

PB L 70419. I. G. FARBENINDUSTRIE A. G., BOBINGEN, GERMANY. Chemical research reports. (FIAT Microfilm Reel E 16. Frames 1-165). 1941-1944. 165 f.
Price: Microfilm-$2.50 - Enlargement print-$16.50
This FIAT microfilm reel consists of items dealing with research on synthetic fibers. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $2.50. Please include PB and frame numbers when ordering individual items from this microfilm reel.
In German.

| Frames | Title | Price |
|---|---|---|
| 1-6<br>7<br>PB L 70419 | Saponification of "Perlon" fibers. By Hertlein. 1944. In German. | $1.50 |
| 6<br>PB L 70419 | Preparation of "Perlon" fibers. By Gussmann. 1944. In German. (Poorly legible). | 1.50 |
| 7<br>PB L 70419 | Same as 1-6. | |
| 8-26<br>PB L 70419 | "Perlon" fibers. 1943. In German. | 2.00 |
| 27-40<br>PB L 70419 | Melt-spinning of polyurethane. By Kleine. 1943. In German. | 1.50 |
| 41-44<br>PB L 70419 | Process for cold stretching of polyamide threads and fibers with adjusted tension. 1941. In German. | 1.50 |
| 45-64<br>PB L 70419 | Analytical methods for the testing of "Perlon." In German. (Several frames are poorly legible). | 2.00 |
| 65-141<br>PB L 70419 | Report in the field of polyamides. By Schlack. n. g. In German. (Legibility very poor). | 8.00 |
| 142-148<br>PB L 70419 | Polyamides (melting curves for the styrene, diphenyloxide-"Mirolin"). By Werniger. 1944. In German. | 1.50 |
| 149-165<br>PB L 70419 | "Perlon" report. 1942. In German. (Mostly illegible). | 2.00 |

PB L 70419-S. I. G. FARBENINDUSTRIE A. G., BOBINGEN, GERMANY. Chemical research reports. (FIAT Microfilm Reel E 16, Frames 1-165, abstract cards). 1941-1944. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
These are abstracts of the items on reel E 16 (PB 70419). They were prepared by FIAT abstracters in Germany.

*PB L 2335-S. PERKERSON, FRED S. Survey of German coated fabrics industry. (Supplement 1 to Survey of the coated fabrics industry of Germany, by DeForrest Lott and William D. Hedger, PB 2335). (FIAT Final Rept 464, Supp 1). Feb 1947. 11 p. Price: Mimeo-$0.50
Drawings and photographs of the Siemens-Schuckert oilcloth plant, production figures, and operating temperatures are given. Responsible personnel of this plant contradict several figures given in FIAT Final Report No. 464.

PB L 73937. VISCOSE making machinery in Germany. (FIAT Microfilm Reel A 72, Frames 1-92). 92 f. 1936-1946. Price: Microfilm-$1.75 - Enlargement Print-$9.50
This reel is a microfilm supplement of FIAT Final Report 647, entitled "Viscose Making in Germany," consisting of views and detail drawings from "Vereinigte Glanzstoff Fabriken, Oberburg-W. Kalle & Co., Wiesbaden and I. G. Farbenindustrie, Wolfen - relating to cellulose-viscose production, e.g. machinery and installations for cellulose feeding and tearing, for alkalisation, filters for liquors and for removal of liquors, conveyors, high pressure presses, rotary drums, ripening installations, passing centrifuges, and viscose crushers and mills. A drawing index with text in English is included. A number of frames will not reproduce well.

## TRANSPORTATION EQUIPMENT

### AERONAUTICS

PB L 23833-A. U. S. AERONAUTICAL BOARD. Bulletins; contractor service (for air-frames, engines, and accessories). (Army-Navy Aeronautical Specification AN-B-9b-Amendment) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21253-k. U. S. AERONAUTICAL BOARD. Cement; rubber. (Army-Navy Aeronautical Specification AN-C-54, rev.) Jun 1946. 13 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21325-A. U. S. AERONAUTICAL BOARD. Cylinders; hydraulic actuating. (Army-Navy Aeronautical Specification AN-C-66c, Amendment) Aug 1946. 4 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 80796. U. S. AERONAUTICAL BOARD. Compound; engine cleaning (cresol base). (Army-Navy Aeronautical Specification AN-C-163). Nov 1946. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 78646. U. S. AERONAUTICAL BOARD. Dope; cellulose-acetate-butyrate, clear. (Army-Navy Aeronautical Specification AN-D-1a). Mar 1947. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 34906-A. U. S. AERONAUTICAL BOARD. Drawings, tool lists, and sample tools for aeronautical and associated equipment, (with amendment no. 1, May 1947). (Army-Navy Aeronautical Specification AN-D-17). Jan 1946. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 21353-A. U. S. AERONAUTICAL BOARD. Engines; preparation for storage of aircraft. (Army-Navy Aeronautical Specification AN-E-11, Amendment) Aug 1946. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 28670-B. U. S. AERONAUTICAL BOARD. Fuel; grade 73 aircraft-engine. (Army-Navy Aeronautical Specification AN-F-23, rev.) Jun 1946. 9 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21376-A. U. S. AERONAUTICAL BOARD. Fittings; pressure-grip lubricator. (Army-Navy Aeronautical Specification AN-F-38-Amendment) Jul 1946. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 34909-A2. U. S. AERONAUTICAL BOARD. Handbooks; overhaul instruction (for aircraft engines). (Army-Navy Aeronautical Specification AN-H-10-Amendment 2) Aug 1946. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 34907-A3. U. S. AERONAUTICAL BOARD. Handbooks; overhaul instruction (for aircraft accessories, aircraft engine accessories and related equipment). (Army-Navy Aeronautical Specification AN-H-12-Amendment 3) Jul 1946. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 21418-A2. U. S. AERONAUTICAL BOARD. Hose; low pressure flexible. (Army-Navy Aeronautical Specification AN-H-29a-Amendment 2) Aug 1946. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 34915-A. U. S. AERONAUTICAL BOARD. Insignia and markings for search and rescue aircraft design requirements for. (Army-Navy Aeronautical Specification AN-I-38a) Oct 1945. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Supersedes PB 34915.

PB L 21480-B. U. S. AERONAUTICAL BOARD. Lamp assembly; 24 inch rigid drum type rotating beacon. (Army-Navy Aeronautical Specification AN-L-4, rev.) May 1946. 14 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21492-A2. U. S. AERONAUTICAL BOARD. Light assemblies; electrically retractable landing. (Army-Navy Aeronautical Specification AN-L-11a-Amendment 2) Jul 1946. 3 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21531-A. U. S. AERONAUTICAL BOARD. Nuts; aircraft. (Army-Navy Aeronautical Specification AN-N-2a-Amendment) May 1946. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21533-A2. U. S. AERONAUTICAL BOARD. Nuts; self locking. (Army-Navy Aeronautical Specification AN-N-5a-Amendment 2) May 1946. 4 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21598-A. U. S. AERONAUTICAL BOARD. Propellers; installation model specification (instruction for preparation). (Army-Navy Aeronautical Specification AN-P-23-Amendment) Oct 1946. 3 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21564-A3. U. S. AERONAUTICAL BOARD. Plates; information and identification. (Army-Navy Aeronautical Specification AN-P-38-Amendment 3) Jul 1946. 3 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21566-A2. U. S. AERONAUTICAL BOARD. Plating; cadmium. (Army-Navy Aeronautical Specification AN-P-61-Amendment 2) Aug 1946. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21571-A. U. S. AERONAUTICAL BOARD. Plywood; container. (Army-Navy Aeronautical Specification AN-P-72-Amendment) Jul 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21623-R. U. S. AERONAUTICAL BOARD. Regulators: generator voltage. (Army-Navy Aeronautical Specification AN-R-1, rev.) Jan 1943. 15 p. Price: Microfilm-50¢ - Photostat-$1.00
Supersedes PB 21623.

PB L 21631-A4. U. S. AERONAUTICAL BOARD. Rivets: aluminum and aluminum alloy. (Army-Navy Aeronautical Specification AN-R-19-Amendment 4) Aug 1946. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21647-R. U. S. AERONAUTICAL BOARD. Shackles: cable. (Army-Navy Aeronautical Specification AN-S-23a, rev.) Aug 1946. 6 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21661-R. U. S. AERONAUTICAL BOARD. Starters: aircraft inertia, general specification for. (Army-Navy Aeronautical Specification AN-S-38, rev.) May 1946. 12 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21697-R. U. S. AERONAUTICAL BOARD. Switches: generator control relay (differential). (Army-Navy Aeronautical Specification AN-S-42, rev.) Jul 1946. 13 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21663-R. U. S. AERONAUTICAL BOARD. Starters: direct cranking. (Army-Navy Aeronautical Specification AN-S-54, rev.) May 1946. 11 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21724-A4. U. S. AERONAUTICAL BOARD. Thinners: toluene substitute. (Army-Navy Aeronautical Specification AN-T-8b-Amendment 4) Jun 1946. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21719-A. U. S. AERONAUTICAL BOARD. Thimbles: wire-cable. (Army-Navy Aeronautical Specification AN-T-26a-Amendment) Jul 1946. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21720-A2. U. S. AERONAUTICAL BOARD. Thinners: cellulose acetate butyrate dope. (Army-Navy Aeronautical Specification AN-T-27-Amendment 2) n. d. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21757-R. U. S. AERONAUTICAL BOARD. Tubing: (.27 to .33 carbon chrome-nickel-molybdenum steel welded). (Army-Navy Aeronautical Specification AN-T-33, rev.) Aug 1946. 7 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21702-A. U. S. AERONAUTICAL BOARD. Tape: adhesive sealing (rubber and cork composition). (Army-Navy Aeronautical Specification AN-T-24-Amendment) Oct 1946. 3 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21722-A7. U. S. AERONAUTICAL BOARD. Thinners: cellulose-nitrate-dope-and-lacquer. (Army-Navy Aeronautical Specification AN-TT-T-256-Amendment 7) Jun 1946. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21730-A. U. S. AERONAUTICAL BOARD. Titanium oxide, chalk-resisting, dry (pigment). (Army-Navy Aeronautical Specification AN-TT-T-436a-Amendment) Sep 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21779-A. U. S. AERONAUTICAL BOARD. Valves: hydraulic check. (Army-Navy Aeronautical Specification AN-V-5c-Amendment) Sep 1946. 4 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21791-R. U. S. AERONAUTICAL BOARD. Valves: oil dilution and separately mounted priming solenoid. (Army-Navy Aeronautical Specification AN-V-16a, rev.) May 1946. 8 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21773-A. U. S. AERONAUTICAL BOARD. Valves: air pump safety. (Army-Navy Aeronautical Specification AN-V-20-Amendment) May 1946. 3 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21774-A2. U. S. AERONAUTICAL BOARD. Valves: air pump suction relief. (Army-Navy Aeronautical Specification AN-V-21-Amendment 2) May 1946. 5 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21793-A2. U. S. AERONAUTICAL BOARD. Valves: vacuum restricter. (Army-Navy Aeronautical Specification AN-V-24-Amendment 2) Jun 1946. 3 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21375-A6. U. S. AERONAUTICAL BOARD. Fittings: fluid connection. (Army-Navy Aeronautical Specification AN-WW-P-366a-Amendment 6) Jul 1946. 4 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 25911-R. U. S. AERONAUTICAL BOARD. Bearing - Intermediate duty ball (deep groove, composition seal). (Army-Navy Aeronautical Standard Drawing AN203, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 25912-R. U. S. AERONAUTICAL BOARD. Bearing - heavy duty double row ball (deep groove, composition seal). (Army-Navy Aeronautical Standard Drawing AN 205, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 25917-R. U. S. AERONAUTICAL BOARD. Bearing - heavy duty ball (deep groove, composition seal). (Army-Navy Aeronautical Standard Drawing AN212, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 25918-R. U. S. AERONAUTICAL BOARD. Bearing - extra heavy duty ball (deep groove, composition seal). (Army-Navy Aeronautical Standard Drawing AN213-1, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 25930-R. U. S. AERONAUTICAL BOARD. Pin - hinge. (Army-Navy Aeronautical Standard Drawing AN253, rev.) Sep 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26092-R. U. S. AERONAUTICAL BOARD. Gasket - flared tube, Universal fitting. (Army-Navy Aeronautical Standard Drawing AN 902-5, rev.) Sep 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26100-R. U. S. AERONAUTICAL BOARD. Elbow - internal and external pipe thread 90°. (Army-Navy Aeronautical Standard Drawing AN 914-3, rev.) May 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26131-R. U. S. AERONAUTICAL BOARD. Transformer - series multiple (Subway - with detachable couplings). (Army-Navy Aeronautical Standard Drawing AN 2516, rev.) May 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26177-R. U. S. AERONAUTICAL BOARD. Switch-generator control relay (differential). (For basic report see PB 26177, vol. 3, p. 593). (Army-Navy Aeronautical Standard Drawing AN 3025, rev.). Feb 1947. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 26177-R3. U. S. AERONAUTICAL BOARD. Switch-generator control relay (differential). (Army-Navy Aeronautical Standard Drawing AN 3025-3) Feb 1947. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 26191-R. U. S. AERONAUTICAL BOARD. Cover - circular formation light. (Army-Navy Aeronautical Standard Drawing AN 3040-1, rev.) Jun 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26236-R. U. S. AERONAUTICAL BOARD. Light assembly - electrically retractable landing. (Army-Navy Aeronautical Standard Drawing AN3095-3, rev.) Jul 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26319-R2. U. S. AERONAUTICAL BOARD. Switch - two engine ignition. (Army-Navy Aeronautical Standard Drawing AN 3213-1, rev. 2) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26320-R2. U. S. AERONAUTICAL BOARD. Switch - four engine ignition. (Army-Navy Aeronautical Standard Drawing AN 3214-1, rev. 2) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26430-R. U. S. AERONAUTICAL BOARD. Adapter - fuel or oil tank filler cap raised 3 inch I. D. (Army-Navy Aeronautical Standard Drawing AN 4123, rev.) Sep 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26477-R. U. S. AERONAUTICAL BOARD. Resistor - adjustable thermocouple lead. (Army-Navy Aeronautical Standard Drawing AN 5535, rev.) Jun 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26569-R. U. S. AERONAUTICAL BOARD. Cylinder - nonshatterable $CO_2$. (Army-Navy Aeronautical Standard Drawing AN 6025-1, rev.) Jul 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26608-R. U. S. AERONAUTICAL BOARD. Fittings - Hydraulic accumulator air pressure gage. (Army-Navy Aeronautical Standard Drawing AN 6218, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26621-R. U. S. AERONAUTICAL BOARD. Plug - hydraulic set screw lock. (Army-Navy Aeronautical Standard Drawing AN 6233, rev.) May 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26624-R. U. S. AERONAUTICAL BOARD. Filter element - hydraulic replaceable micronic reservoir type. (Army-Navy Aeronautical Standard Drawing AN 6236, rev.) Mar 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26633-R. U. S. AERONAUTICAL BOARD. Ring - hydraulic packing back-up. (Army-Navy Aeronautical Standard Drawing AN 6246, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26713-R. U. S. AERONAUTICAL BOARD. Light assembly - flashlight (pen type). (Army-Navy Aeronautical Standard Drawing AN 8023, rev.) Jun 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26746-R. U. S. AERONAUTICAL BOARD. Bosses - standard dimensions for gasket seal straight thread. (Army-Navy Aeronautical Standard Drawing (Design) AND 10050-6, rev.) Jun 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26751-R. U. S. AERONAUTICAL BOARD. Bosses: Pipe-thread, internal - standard dimensions for. (For basic report see PB 26751, vol. 3, p. 659). (Army-Navy Aeronautical Standard Drawing (Design)AND 10053 rev.). Mar 1947. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 26757-R. U. S. AERONAUTICAL BOARD. Tubing end - standard dimensions for flared. (Army-Navy Aeronautical Standard Drawing (Design) AND 10061-2, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26768-R. U. S. AERONAUTICAL BOARD. Fastener - dimensions for cowling. (Army-Navy Aeronautical Standard Drawing (Design) AND 10076-1, rev.) May 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26774-R. U. S. AERONAUTICAL BOARD. Fastener installation - snapslide. (Army-Navy Aeronautical Standard Drawing (Design) AND 10082, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26849-R. U. S. AERONAUTICAL BOARD. Colors - fluid lines identification. (Army-Navy Aeronautical Standard Drawing (Design) AND 10375-4, rev.) Jul 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26874-R. U. S. AERONAUTICAL BOARD. Insert arrangements - electrical connector shell size 18. (Army-Navy Aeronautical Standard Drawing (Design) AND 10429, rev.) Jun 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26875-R. U. S. AERONAUTICAL BOARD. Insert arrangements - electrical connector shell size 20. (Army-Navy Aeronautical Standard Drawing (Design) AND 10430, rev.) Aug 1946. 3 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26876-R. U. S. AERONAUTICAL BOARD. Insert arrangements - electrical connector shell size 22. (Army-Navy Aeronautical Standard Drawing (Design) AND 10431-1, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26877-R. U. S. AERONAUTICAL BOARD. Insert arrangements - electrical connector shell size 24. (Army-Navy Aeronautical Standard Drawing (Design) AND 10432, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26878-R. U. S. AERONAUTICAL BOARD. Insert arrangements - electrical connector shell size 28. (Army-Navy Aeronautical Standard Drawing (Design) AND 10433, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26879-R. U. S. AERONAUTICAL BOARD. Insert arrangements - electrical connector shell size 32. (Army-Navy Aeronautical Standard Drawing (Design) AND 10434, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26879-R2. U. S. AERONAUTICAL BOARD. Insert arrangements - electrical connector shell size 32. (Army-Navy Aeronautical Standard Drawing (Design) AND 10434, rev.2) Oct 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26881-R. U. S. AERONAUTICAL BOARD. Insert arrangements - electrical connector shell size 40. (Army-Navy Aeronautical Standard Drawing (Design) AND 10436, rev.) Oct 1946. 3 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26882-R. U. S. AERONAUTICAL BOARD. Insert arrangements - electrical connector shell - size 44. (Army-Navy Aeronautical Standard Drawing (Design) AND 10437, rev.) Oct 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26884-R. U. S. AERONAUTICAL BOARD. Receptacle - fuel nozzle grounding (installation of). (Army-Navy Aeronautical Standard Drawing (Design) AND 10439, rev.) Jul 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

## Aircraft

PB L 85442-S. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Effect of extreme atmospheric conditions on the strength of glued joints. Addendum. (Rept S.M.6, Supp.) Dec 1941. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
Tests were conducted to determine the effect of a number of cycles of high temperature and low humidity alternating with normal temperature and high humidity on the strength of joints between plywood and solid timber made with casein glue. It was possible to perform only 17 cycles and up to this number no significant deterioration of the glued joints was observed.-Abstract prepared by CSIR Div. of Aeronautics.

PB L 85442. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS.

Aircraft (contd)

Examination of damaged Anson wings. Part I: Portions of wing from Anson A4-5. Part II: Portions of wing from Anson N1331. By H. A. Wills. (Rept S.M.6) Mar 1941 22 p. Price: Microfilm-$1.50 - Photostat-$3.00

Portions of a damaged Anson mainplane were submitted by the Department of Air for examination "to ascertain whether there was any possibility that failure of the mainplane was due to any structural defect." The fragments came from Anson A4-5 which was involved in an accident at Glenbrook, New South Wales, while flying from Parkes to Sydney on January 29th, 1941. It was reported that portions of the port wing failed and detached themselves from the aircraft in the air. The examination and tests on the port spar indicated that, in general, the construction of this part was sound; but one lamination in the upper boom showed excessive slope of grain. The adhesion of the plywood wing covering to the spars and ribs was poor in general, and in some locations very poor indeed, due apparently to insufficient pressure when making the joints. The moisture content of the whole structure when tested was abnormally low, and this may have had an adverse effect on those glued joints which had been made with insufficient pressure particularly those between skin and supporting structure. At a later date portions of the front spar of Anson N1331 which had been damaged in a collision on the ground, were submitted for examination because of the similarity in location and nature of the fractures to those of Anson A4-5 which had failed in the air. An examination indicated that the glued joints, made chiefly with cold setting synthetic resin glue, were in poor condition. Tests on the joints confirmed that their strengths were below the generally accepted design values. Photographs and tables are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85461. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Examination of Japanese tail-wheel retraction unit. (Instrument Note 21). Oct 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

At the request of the R.A.A.F., a tail-wheel retraction unit taken from a Japanese medium bomber has been examined. It is electrically driven and can lift 150 lbs. two feet in a little over seven seconds. Measurements of speed of operation at various loads and voltages have been made.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85448. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Kittyhawk aircraft: Part I: Trials with an 83 gallon belly fuel tank. Part II: An investigation of the effect on top speed of polishing the aircraft. (Rept F.8). Sep 1942. 19 p. Price: Microfilm-$1.25 - Photostat-$2.00

An 83 (Imperial) gallon externally carried Belly Fuel tank of moulded plywood has been treated as an overload item on a Kittyhawk at normal maximum load, and its effect on performance in speed and climb determined. On rated power the initial climb is decreased from 2000 ft. per minute to 1580 feet per minute by the addition of the tank. The time to 20,000' is increased from 11.7 minutes to 15.8 minutes, while the estimated service ceiling is decreased from 32,300' to 26,800'. The top speed on military power at full throttle height is decreased from 348 m.p.h. at 12,300' to 314 m.p.h. at 12,000', and the top speed on rated power at full throttle height is reduced from 330 m.p.h. at 11,800' to 300 m.p.h. at 11,300' by the addition of the tank. The top speed figures have been analysed, and making some broad assumptions and with the consumption figures available, a curve is given showing the probable increase in range, at constant indicated airspeed, due to the addition of the tank. The effect of polishing the aircraft in stages has been investigated - (a) Polishing control surfaces has no detectable influence on top speed or control characteristics; (b) Polishing the mainplanes brought about an increase in the top speed on military power at full throttle height of about 6 m.p.h.; (c) Polishing the fuselage brought about an increase in top speed on military power of about 1 m.p.h. Tables and graphs are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85471. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Note on cowls for the rear gun emplacement of R.A.A.F. Hudson bomber. By T.F.C. Lawrence. (Rept A.1). Aug 1940. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00

Model tests were made to determine a suitable fixed cowl for the rear gun emplacement of the R.A.A.F. Hudson bomber. Observations of the wake conditions behind various cowls showed that the wake from the proposed type of cowl was smaller than that from the Boulton Paul turret now fitted to the R.A.F. Hudson. Since the controllability of the British bomber was not seriously affected by the addition of the Boulton Paul turret, it was concluded that no control difficulties would arise when the fixed cowl was fitted to the R.A.A.F. Hudson. This was verified by flight tests. Photographs and curves are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85476. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Note on the estimation of the performance of the type 99 Japanese dive bomber. By F. G. Blight. (Aerodynamics Note 24). Jun 1943. 17 p. Price: Microfilm-$1.25 - Photostat-$2.00

Performance estimate for the Type 99 Japanese dive bomber. The drag of the aircraft was estimated for 100 feet/second at sea level using a Reynolds number deduced from an assumed speed of 200 M.P.H. Included are graphs and tables.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85456. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Spitfire Vc aircraft: Part I - Performance of a tropicalised version with 30 and 90 gallon belly fuel tanks. (Rept F.12/1). Aug 1943. 21 p. Price: Microfilm-$1.50 - Photostat-$3.00

Brief performance trials of a Tropicalised Spitfire Vc were carried out at Special Duties and Performance Flight, R.A.A.F. Station, Laverton. The work covered level speed, climb, range and take-off measurements in a normal condition and with 30 and 90 gallon belly tanks fitted. Photographs and graphs are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85446. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Structural tests of Beaufort components. Part II: Tests of engine mounting. By H. W. Maley. (Rept S.M. 12-2) Oct 1941. 11 p. Price: Microfilm-$1.25 - Photostat-$2.00

An engine mounting structure for the Bristol Beaufort aircraft fabricated from T.45 tubing electric arc welded and, on the mounting ring S.3 sheet, instead of DTD.347 tubing and DTD.124A sheet as called for on the original Bristol drawings, was statically tested to check its compliance with the Airworthiness Requirements. The mounting was considered satisfactory although the proof strength of the ring incorporating the S.3 plates was marginal. Photographs and graphs are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85443. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Tests of replacement components for seagull aircraft. Part I: Tests of wooden spar. By H. W. Maley. (Rept S.M. 13) Aug 1941. 15 p. Price: Microfilm-$1.25 - Photostat-$2.00

A wooden wing spar designed as a replacement for the original metal spars was tested in a special rig to determine whether the loads corresponding to design stressing cases could be satisfactorily withstood, tests being conducted for the two critical cases. Deflection measurements were taken to determine whether the proof requirement was met. Photographs, diagrams and graphs are appended.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85452. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Tests on a Beaufort wooden tailplane. By. A. T. Taylor. (Rept SM 34) Mar 1944. 19 p. Price: Microfilm-$1.25 - Photostat-$2.00.
Tests were conducted to ascertain the strength and stiffness of a wooden tailplane designed to replace the metal tailplane at present used on the Bristol Beaufort. The specimen was tested for the two critical loading cases. The tailplane met the stiffness requirement of AP 970 chap. 505 with a comfortable margin. It was slightly stiffer in torsion than its metal counter part but was of lower flexural stiffness. The strength tests covered proof loading to 85% of the revised Ultimate Load with C. P. at 0.5 C and at the L.E., and a final test to 147% Ultimate Load with C.P. at L.E. No major failure occurred in the tailplane but a skin failure occurred on the R. E. side at 140% Ult. Load and a small split - 3" long on the L.E. side and 1" long on the R.E. side - opened up in the tension skin at the F.S. at each corner of the fuselage cutout. These splits ran back and out at 450° to the chord line. Photographs and curves are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85445. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Tests on stiffened panels for "Beaufort" aircraft. (Rept S.M. 12-1) Sep 1941. 11 p. Price: Microfilm-$1.25 - Photostat-$2.00
Two sets of three identical panels, one set stiffened with L.40 extruded bulb angles, the other set stiffened with formed D.T.D.390 sheet sections, were tested in compression to ascertain whether the extrusions could be replaced by the formed sections. The panels with the formed section stiffeners gave slightly higher test results than those with bulb angles and were considered satisfactory as a replacement. Tables and diagrams are attached.--Abstract prepared by CSIR Div of Aeronautics.

PB L 85451. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Tests on three-ply flat panels in end compression. By F. S. Shaw and J. P. O. Silberstein. (Rept SM 35). Apr 1944. 19 p.
Price: Microfilm-$1.25 - Photostat-$2.00
A comprehensive testing project is being carried out dealing with the stability under compressive end load of flat and curved three-ply panels made from Hoop Pine (Araucaria cunninghamii). In all cases the loaded ends are clamped and the sides simply supported. This report covers that part of the project related to 3/16" thick flat panels, the grain of the outer veneers being parallel to the direction of loading. The panels had three variations in length and in width (i.e. nine combinations) and there were five repetitions of each. Control specimens comprising flexure, tension, compression and glue joints were also tested. Buckling loads were determined by Southwell's method as modified by Lundquist, and also by inspection of the load v. overall compression graphs. The buckling coefficients derived from these were compared with theoretical values and agreement was fairly good. Since the designing engineer is rather more interested in the ability of a panel to carry load after buckling curves of average stress v. edge stress are included. There are photographs and graphs.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85474. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Wind tunnel measurement of the hinge moments on bomb doors beneath an engine nacelle. By T. F. C. Lawrence and G. K. Batchelor. (Rept A.3). Jan 1941. 17 p. Price: Microfilm-$1.25-Photostat-$2.00
Hinge moments were measured on a pair of doors fitted to a bomb stowage compartment occupying the lower half of an engine nacelle. The measurements were required to give the design loads, and were made (a) on the complete door, and (b) on each one-third section, in the closed, full open, and two intermediate positions, with the model yawed through ±10°, ±5° and 0°, and at incidences of 0°, 3° and 6°. The tests were performed without slipstream or cooling flow. Results are given in the form of tabulations, and in curves of hinge moment against yaw, incidence and angle of opening.--Abstract prepared by CSIR Div. of Aeronautics.

## Instruments

PB L 85478. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Compass deviations due to aircraft cannon; laboratory experiments. By A.A. Townsend. (Instrument Note 10). Jan 1943. 6 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Work being carried out on the effect on the observer's compass of the cannon carried by the Beaufighter. By the usual methods, compass deviations may be reduced to a low figure (around 2°) and these deviations are expected to remain constant during flight. It has been observed that after firing the cannon, large deviations appear in both the pilot's and the observer's compass. Experiments on magnetization induced by shock are described. On the basis of laboratory experiments, some suggestions are made for eliminating compass deviation on the Beaufighter, and estimates made of the effectiveness of the devices.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85463. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Examination of Japanese electric tachometer. By A. A. Townsend. (Instrument Note 19). Aug 1943. 12 p. Price: Microfilm-$1.25 - Photostat-$2.00
A complete electric tachometer taken from a captured Japanese aircraft, has been examined and tested. It employs an A. C. generator and a rectifier-type indicator and satisfactory temperature compensation has been achieved. The workmanship and finish is good, but several features of the indicator seem to require more skilled fitting than is usually acceptable in a production instrument. Photographs and curves are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85462. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Examination of Japanese tachometer generator. (Instrument Note 13). Mar 1943. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
A tachometer generator taken from a Japanese aircraft has been examined, and found to be very much smaller and lighter than standard British and American generators. It is suggested that an indicator be obtained, so that a comprehensive test can be made on the complete tachometer. Photographs and typical oscillograms are provided.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85464. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. A noise-meter for use at high levels. By A. A. Townsend. (Rept I.3). Sep 1941. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
A noise-meter has been constructed with a view to use in the neighbourhood of high power engines and aircraft. Owing to the high sound levels prevailing, the design may be considerably simplified, and a comparatively light and compact instrument of straightforward construction has been produced. A photograph and a circuit diagram are appended.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85145. RAEUERLE, H. Design of velocity meters at the AVA Goettingen. (Supplement to the report of the Institute "Wind tunnels," June 26, 1946). (BIOS Rept 81). Aug 1946. 16 p. Price: Mimeo-$0.50

Instruments (contd)

Pitot-static tubes are easily made. They are distinguished for comparatibely small errors in indication, especially in the often used range of -5° to 5° of the angle of incidence. Particular calibration of each tube can be dispensed with. In this report the following subjects are discussed: (1) Aircraft pitot-static tubes with compensation of position error; (2) Measurement of pressure for barometric ignition; (3) Pitot-static tubes for high speed; and (4) Aernautical log. Nine sketches and eight charts are included.

*PB L 80639. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE. Interrogation of Gurt von Manteuffel of Askania A. G. Triple gyro system. (Interrogation Rept 358). Feb 1947. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

This report describes the triple gyro stabilizer and the standard autopilot generally known as the Patin autopilot.

PB L 30873. DUNCAN, T. C. Paralleling of Eclipse aviation control panel No. 323-1-A for C-47 airplane. (AAF Materiel Command Memo Rept EXP-M-54-656-559) Sep 1942. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30872. DUNCAN, T. C. Vibration tests of Eclipse aviation generator control panel 323-1-A, using swing mounts. (AAF Materiel Command Memo Rept EXP-M-54-656-562) Sep 1942. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30919. GREENLEE, P. H. Indicator assembly: Dietz Manufacturing Company, "Teller." (AAF ASTC Eng Div Memo Rept TSEPL-3-656-1074A) Nov 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 81039. HENRICH, EMIL. Instrumentation of aircraft as used by the Flight Test Division. (AAF Tech Rept 5551). Feb 1947. 90 p. Price: Microfilm-$2.00-Photostat-$6.00

The purpose of this report is to set forth the general instrumentation requirements for the complete flight testing of aircraft as required by the Flight Test Division of the Air Material Command, Wright Field, Ohio. In this report a detailed analysis of what constitutes complete instrumentation is presented in order to form a basis for specifications for the Flight Test Engineering officers, and to present a guide to the contractors when instrumentation is included in the contract and is installed by the contractor. The text is supplemented by illustrations.

Engines and Propellers

PB L 85466. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. The capacity of screened high tension ignition systems. By M. W. Woods. (Rept E.4). Jan 1941. 6 p. Price: Microfilm-$1.00-Photostat-$1.00

The electrostatic capacities of ignition harnesses of the conduit type and of two kinds of metal-braided H.T. cable have been measured, to assist in determining reasonable performance requirements for magnetos.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85460. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Cooling calibration of an R2800-31 Wasp engine in Ventura aircraft A.59-4. By G. J. Dailey and T. S. Keeble. (Rept E.39). Jun 1944. 19 p. Price: Microfilm-$1.25 - Photostat-$2.00

A cooling calibration of the R2800-31 engine in a Ventura aircraft has been obtained. Operating temperatures have been found in agreement with other published work on this engine providing the engine conductivity as determined in the C.S.I.R. wind tunnel be used and due allowance be made for the influence of charge inlet temperature on effective gas temperature. Cooling requirements for the proposed R2800-10 engine in the CA.15 aircraft have been recalculated using the new experimental data. Photographs, tables, and curves are included. --Abstract prepared by CSIR Div. of Aeronautics.

PB L 85473. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Cylinder wear in Wasp and Twin Wasp engines: Test of a chromium-plated cylinder. By M. W. Woods. (Rept E.13). Dec 1941. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00

A chromium-plated Wasp cylinder has been run for 100 hours on a single-cylinder engine. The condition of the cylinder and rings after the test, the rate of wear, and the possibility of improving the plating have been investigated. Although the quality of the plating was satisfactory, the rate of cylinder wear was rather high. Very little wear occured on the rings. It is proposed by R.A.A.F. that plating should be used as a means of reclaiming Twin Wasp cylinders which have worn beyond permissible limits. The investigation shows no technical objection to this procedure, apart from the comparatively high rate of wear.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85459. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Development of a flame-damper for Vengeance aircraft. By W. H. Clements and T. S. Keeble. (Rept E.38). May 1944. 25 p. Price: Microfilm-$1.50 - Photostat-$3.00

An "injector" type flame damper for R 2600-19 Cyclone engines in Vengeance aircraft has been developed on the dynamometer test-bed. A calibration of the successful form of the damper has been made and the results applied to top-speed flight of the aircraft; a nett momentum thrust results from the use of the damper and its installation should result in less drag than that accruing from the fitting of other types which have been developed for the aircraft. Further work on flight testing is to be done to check the flame-damping qualities and aircraft performance. A wind-tunnel investigation of the entry duct is proposed. Photographs and diagrams are appended. --Abstract prepared by CSIR Div. of Aeronautics.

PB L 85454. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Ducted counter-rotating airscrews. By G. N. Patterson. (Rept A.16) Sep 1943. 73 p. Price: Microfilm-$2.75 - Photostat-$8.00.

This Report is the fourth of a series on the subject of ducted airscrews. Previous work had indicated that high efficiency could be obtained with an airscrew-straightener combination, but only for a relatively low pressure rise through the unit. At higher pressure rises, the efficiency was reduced by interference effects in the straightener due to the larger amount of rotation in the slipstream. Further investigation showed that if the straightener were replaced by a second airscrew rotating in a direction opposite to that of the first airscrew and designed so that it removed the slipstream rotation introduced by the latter, then it would be possible to reduce the interference effects and so obtain a higher pressure rise while retaining the same high efficiency. The theory of ducted counter-rotating airscrews is given in this report along with two methods of design. It is shown that very high efficiencies are possible with a counter-rotating system and that these high efficiencies can be attain-

ed at larger pressure rises than in the case of an airscrew-straightener combination. In previous reports 1, 2, 3, the term "fan" has been used since they referred specifically to fans operating in a stationary duct. In this report the more general term "airscrew" has been adopted since the theory is also applicable to the propulsion of aircraft by ducted counter-rotating airscrews. Tables and graphs are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85470. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Ducted fans of high efficiency. By G. N. Patterson. (Rept A.7). Mar 1942. 43 p. Price: Microfilm-$2.00 - Photostat-$5.00

A method of design of axial flow fans for use in duct systems has been developed. The momentum and vortex theories of the airscrew as applied to ducted fans have been reviewed and a set of conditions deduced which lead to the design of a fan of high efficiency for any given duct. These conditions show that the choice of the ratio of axial velocity to rotational velocity of the blade element ($\lambda = u/\Omega r$) is of primary importance while so long as the ratio of lift to drag ($\gamma = C_L/C_D$) is large, it is a secondary consideration. The radial deflectors required to remove the rotation behind the fan are included as part of the general design problem. The method eliminates the necessity for successive approximations and graphical integration of thrust and torque grading curves. Diagrams and graphs are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85447. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Ducted fans of high efficiency - effect of straightener design. By G. N. Patterson. (Rept A 14) Feb 1943. 21 p. Price: Microfilm-$1.50 - Photostat-$3.00

The conditions which lead to the design of a fan-straightener unit of high efficiency have been extended by a detailed examination of the part played by the straightener. The best operating condition for the straightener blade element has been determined and applied to the case of the N.P.L. straightener. The whole problem of design for high efficiency is then summarized in three final conditions which show the designer how to obtain the maximum efficiency possible with a fan-straightener unit. The result of the above investigation show that high efficiency in a fan-straightener unit corresponds to an increase of pressure ($\Delta h$) through the unit of about the same order as the initial dynamic head in the annulus in which the unit operates (i.e. $k = \Delta h / \frac{1}{2}\rho U^2 = O(1)$). This means that in ducts where $\Delta H$ is large compared with $\frac{1}{2}\rho U^2$ (i.e. $k>>1$), a large number of fan-straightener units (or stages) must be used if high efficiency is to be maintained. In many practical installations a value of the fan operating coefficient (k) considerably in excess of 1.0 is unavoidable and the problem is to use the minimum number of stages while retaining a high efficiency The conditions at high values of k (i.e. at large slipstream rotation) have therefore been investigated to determine the variation of efficiency with increase of slipstream rotation. Owing to the lack of complete information on straighteners designed for large angles of rotation, qualitative results alone have been obtained for this case. However, the important part played by blade interference is made clear and it is shown that the chief obstacle to high efficiency at large slipstream rotation (i.e. for $k >> 1$) is the high solidity of the straightener. Further developments show that the design can be considerably improved by replacing the straightener with a second fan rotating in a direction opposite to that of the first. Curves and diagrams are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85453. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Ducted fans with small slipstream rotation. By G. N. Patterson. (Rept A.13) Dec 1942. 32 p. Price: Microfilm-$1.75 - Photostat-$4.00.

This Report describes a second method of designing airscrew type fans with straighteners. The first method of design aimed particularly at obtaining a high efficiency and it was assumed that all other design factors could be chosen to suit this main condition. In practice, however, some of these factors are frequently fixed by other considerations and the problem then becomes that of determining a design which will give good efficiency under those conditions. It was necessary, therefore, to develop a second method of design which would be more direct in practical cases of this type. The second method of design is based on a large and relatively constant lift/drag ratio along the blade compared with constant efficiency at all radii in the first method. Also the straightener loss coefficient is to be small compared with the coefficient at which the fan operates. An approximate expression for the slipstream rotation factor has been developed from which it has been found possible to obtain an integration of the thrust and torque grading equations (as in the case of the first method). The overall characteristics of a fan designed to operate in a given duct can therefore be calculated without first carrying out detailed blade design, thus considerably facilitating the choice of a suitable fan for a given practical case. The method is direct in that no successive approximations or graphical methods are required and the detailed design need only be done once after the basic design factors are fixed and the resulting overall torque, thrust, power and efficiency have been found to be satisfactory.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85472. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Examination and tests of a Japanese Yokogawa magneto type 14CF2L. By J. C. Wisdom. (Rept E.18). May 1942. 14 p. Price: Microfilm-$1.25 - Photostat-$2.00

A captured Japanese magneto has been examined and tested. Details of the tests and of the construction of the magneto are given. It is of simple construction, the design is for the most part sound and the workmanship is good. While the performance is inferior to that laid down in Air Ministry specifications, the output is adequate over the working speed range of the magneto. Illustrations consist of photographs and curves.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85458. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Examination of Mitsubishi fuel injection pump and mixture control unit from Japanese type III single seater fighter. (Rept E.30). Oct 1943. 12 p. Price: Microfilm-$1.25 - Photostat-$2.00

This report describes a Japanese Mitsubishi "Jukogyo" 12 cylinder aircraft engine petrol injection pump and its mixture control unit. The pump, model 122A, and mixture control unit, model 8A, were manufactured in January, 1943. The design features and operation of the pump and control unit are discussed, and a brief comparison with some German types is given. Photographs and diagrams are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85465. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Note on proposed increased rating of S3C4-G Twin Wasp engine. By T. S. Keeble. (Engines Note 49). Nov 1943. 12 p. Price: Microfilm-$1.25 - Photostat-$2.00

Calculations of full-throttle powers and manifold pressures of the R1830 Twin Wasp engine have been made at 2700 and 2550 r.p.m.; maximum operating temperatures under I.C.A.N. and tropical summer conditions at constant relative pressure differential have been computed. The results have been applied to the S3C4-G Twin Wasp engine in production Boomerang aircraft; "all out level" speeds and rates of climb are increased substantially near sea level. Cooling difficulties will be met in the rated power climb where an increase in climbing speed or mixture strength should be found advantageous. --Abstract prepared by CSIR Div. of Aeronautics.

PB L 85455. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Spitfire Vc aircraft: Part II - Effect on full throttle performance of replacing the original tropicalised cowl and filter with a temperate cowl. (Rept F.12/2). Dec 1943. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
By replacing the production Tropicalised cowl and filter in Spitfire V aircraft by a Temperate cowl of local manufacture there is a gain of 1500 feet in rated height but the marked resulting deterioration of engine running caused a drop in the performance. The drag of the aircraft is not appreciably changed.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85450. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Suitability of R. A. E. type 2E 10-56A oil cooler for S3C-4G Twin Wasp engines fitted to Beaufort aircraft. By W. B. Kennedy and T. F. C. Lawrence. (Rept A.5). Jul 1941. 20 p. Price: Microfilm-$1.25 - Photostat-$2.00
Beaufort aircraft being assembled by the Aircraft Production Commission are to be fitted with Pratt and Whitney S3C-4G Twin Wasp engines instead of the Briston Taurus engines for which the oil cooling installation was designed. It became necessary to determine whether the Taurus cooler would also cool the engine oil for the Twin Wasp. Wind tunnel tests were carried out to determine the airflow through the cooler, this being dealt with in the first part of this report. In the second part, approximate calculations are made of the amount of heat dissipated by the cooler under various conditions. It is concluded that the present installation will provide adequate oil cooling for the Twin Wasp for all engine operating conditions. Photographs, tables, and graphs are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85469. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Tests of a Mitsubishi Kinsei engine from a Japanese type 99 divebomber. By W. H. Clements and J. C. Wisdom. (Rept E.23). Apr 1943. 15 p. Price: Microfilm-$1.25 - Photostat-$2.00
An engine from a Japanese type 99 divebomber has been tested on a dynamometer stand. The maximum sea level power is 995 H.P at 2500 R.P.M. and 1050 H.P. is available at 6600 feet. The cooling of the engine is good enough to allow maximum power mixture to be usedfor continuous rating without overheating. Under cruising conditions, fuel consumptions as low as 0.5 pints/B.H.P. hour are possible without overheating, but no automatic mixture control is provided so that the mixture must be controlled manually uder varying altitude conditions. With the existing carburettor the engine cannot be operated above 29,000 ft. owing to excessive mixture enrichment with the control in the fully lean position. There are graphs and photographs.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85467. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Tests of a Nakajima engine from a Japanese army type 1 single seater fighter aircraft. By W. H. Clements and J. C. Wisdom. (Rept E.37). Mar 1944. 18 p. Price: Microfilm-$1.25 - Photostat-$2.00
An engine from a Japanese Army type 1 fighter OSCAR has been tested on a dynamometer stand. The maximum sea level power is 920 H.P. at 2700 R.P.M. and 1020 H.P. is available at 8000 feet. The cooling of the engine is poor and very rich mixture strengths are required at high power. Fuel loops show that mixture as lean as 0.48 pints per B.H.P. hour may be used for reduced cruise but at normal power rich mixtures are necessary if desirable cylinder head temperatures are to be maintained. Photographs and graphs are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85468. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Tests of a Nakajima engine from a Japanese "Zero" fighter aircraft. By M.W. Woods and W. H. Clements. (Rept E.21). Mar 1943. 15 p. Price: Microfilm-$1.25 - Photostat-$2.00
An engine froma a Japanese "Zero" fighter has been tested on a dynamometer stand. The maximum sea level power is 820 H.P. at 2600 R.P.M. and 925 H.P. is available at 11,500 ft. The cooling of the engine is poor, necessitating the use of mixtures richer than usual both for full power and for cruising. Fuel consumption under cruising conditions is 0.6 pints per B.H.P. hr. Mixture distribution is good and fuel loops show that a specific consumption of 0.5 pints per B.H.P. hr. would be possible, were it not for cooling limitations. Figures include photographs and plotted curves.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85477. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Wear of Wasp and Twin Wasp cylinders; tests of Australian chrome-molybdenum Wasp cylinders. By M. W. Woods. (Rept E.10). Dec 1941. 17 p. Price: Microfilm-$1.25 - Photostat-$2.00
Wear tests of three chrome-molybdenum steel cylinders have been conducted on a Wasp single-cylinder engine. Each cylinder has been run for 100 hours or longer, under maximum continuous cruising conditions, and the wear of cylinder and rings has been measured. It is considered that nitrided chrome-molybdenum cylinders will give satisfactory service, provided that the ring arrangement is such that an adequate oil supply reaches the top ring. Photographs and graphs are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85457. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Wear of Wasp cylinders: Test of a rejected cylinder, forged on the "push-bench". By M. W. Woods. (Rept E.19). Jul 1942. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00
A "push-bench" forged Wasp Cylinder, rejected because the steel contained many small inclusions, has been run for 200 hours on the single-cylinder engine. The rate of cylinder wear was low, and the ring wear was high only during a portion of the test when the oil consumption was very low. There is no evidence that the presence of the inclusions had any effect on wear. After the test, Magnaflux examination showed no cracks and miscroscopic examination gave no indication that the inclusions were acting as stress-raisers, leading to fatigue failure. Tables, graphs and micro sections are included.--Abstract prepared by CSIR Div. of Aeronautics.

* PB L 80650. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE. Interrogation of Dr. Ing. Fritz Dreyhaupt: Research on engines. (Interrogation Rept 495). May 1947. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Dr. Fritz Dreyhaupt is a lecturer on thermodynamics, ignition and combustion in engines etc. This report contains a list of his scientific publications.

PB L 30870. CARPENTER, H. L. Installation of JE-52 starters on type B-34 airplanes. (AAF Materiel Command Memo Rept EXP-M-54-656-573) Oct 1942. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30918. COLIN, R. J. Radio noise tests and recommendations on General Electric turbo supercharger regulator model 3GPE7A1. (AAF Materiel Command Memo Rept ENG-54-656-1047) May 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

Engines and Propellers (contd)

PB L 80833. DENKMEIER, H. Flight tests of slide valve engine JUMO 210. (AAF T-2 Translation 3072). May 1947. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
The rotary valve Jumo 210 was installed in the center position on the Ju 52 three-engined bomber. The engine had been operated for 200 hours on the test stand and was then completely overhauled. Starting was very difficult at temperatures below zero unless acetylene was injected into the boost air. Except for a crack in the crank case the engine was in good condition after 200 hours of flight testing.

PB L 80714. GEILING, L. VON. The use of magnetic compasses in steel aircraft. * Apr 1944. 21 p. Price: Microfilm-$1.00 - Photostat-$2.00
This document discusses the possibilities of using magnetic compasses in steel aircraft and measures which should be taken in preventing the magnetic material of the aircraft body from affecting the magnetized needle. In German. This is a report of the "Deutsche Forschungsanstalt für Segelflug."

Operations

PB L 85449. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Sighting corrections for a free gun. By G. K. Batchelor. (Rept A. 4). Feb 1941. 16 p. Price: Microfilm-$1.25 - Photostat-$2.00
Machine-gun bullets from a free aircraft gun experience various deflections not present when the gun is fixed and firing straight ahead. The current practice is to withhold fire until a range of 200 yards or less is reached when the deflections are of lesser importance. The object of this investigation is to trace quantitatively the path of a bullet fired from any angle at an enemy fighter aircraft which follows an assumed path. The deviations from the line joining firing aircraft and target will be given as corrections to the angles of azimuth and elevation of the gun. Thus if some mechanical means of transmitting the appropriate gun "off-set" from the sights can be arranged, accurate shooting at comparatively large ranges may be obtained without the use of inconvenient sighting devices. Diagrams are included. See also the two following supplements.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85449-S. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Sighting corrections for a free gun. Addendum. By G. K. Batchelor. (Rept A.4, Supp.). May 1941. 7 p. Price: Microfilm-$1.00-Photostat-$1.00

PB L 85449-S2. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Further consideration of sighting corrections for a free gun-parallel motion case. Second addendum. By G. K. Batchelor. (Rept A 4, Supp.). Mar 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 77387. BALDES, E. J. Crash injuries. Contract OEMcmr-560, Bi-monthly progress report, Oct 1, 1945. Oct 1945. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
In this report mention is made of the ejection seat and the design and construction of equipment to be used in the study of decelerations of large magnitude.

PB L 79131. BENSON, JAMES M. The porpoising characteristics of a planing surface representing the forebody of a flying-boat hull. (Natl Advisory Committee for Aeronautics Rept L-479) May 1942. 26 p. Price: Microfilm-$1.00 - Photostat-$2.00
A V-bottom planing surface representing the forebody of a flying-boat hull was used in an investigation of the low-angle type of porpoising. Controllable tail surfaces were fitted on an outrigger that supported them in a position roughly the same as they would have been on a complete model. The planing surface was considered as though it were part of a complete dynamic model and for each test it was balanced to bring the center of gravity of the assembly to the desired position, and the pivot about which it was free to turn was located there. The model was towed in the same manner as a complete dynamic model. A bibliography, data table, diagram and graphs are included.

PB L 79029. CRANE, HAROLD L. and SJOBERG, SIGURD A. Comparison of predicted and actual control-fixed stability and control characteristics of a Douglas A-26B airplane. (Natl Adv Comm for Aeronautics Rept L-608, Memo Rept L5D06). Apr 1945. 42 p. Price: Microfilm-$1.00 - Photostat-$3.00
This report presents a comparison of some of the flying qualities of the A-26B airplane predicted from the physical dimensions of the airplane with the actual flying qualities as determined by Langley flight tests. No estimate of control forces, of effects of power on stability, or of adverse aileron yaw has been made. A bibliography, diagrams and graphs are included.

PB L 79274. DAWSON, JOHN R. The effect of some design parameters on ditching characteristics. (Natl Advisory Committee for Aeronautics Rept L-646, Memo Rept L5D06). Jul 1945. 19 p. Price: Microfilm-$1.00 - Photostat-$2.00
The purpose of this report is to provide designers of airplanes with information that will be helpful in obtaining good ditching characteristics in new designs. The results from a number of model tests and reports of actual ditchings are used as a basis from which to draw conclusions as to the effect on ditching performance of general arrangement, interior arrangement, fuselage shape, and other design parameters. The characteristics of several types of ditching aids that could be incorporated in a design are also discussed. A bibliography and several diagrams are included.

PB L 79015. SOULÉ, H. A. and SEIDMAN, OSCAR. Influence of loading condition on piloting technique for spin recovery for pursuit airplanes. (Natl Adv Comm for Aeronautics Rept L-461). Jun 1942. 8 p. Price: Microfilm-$1.00-Photostat-$1.00
Recent information as to the influence on spins and spin recovery of the wing loading and load distribution of present-day pursuit airplanes is discussed for the guidance of pilots. It is pointed out that high wing loadings and rearward center-of-gravity locations make for more difficult spin recoveries. The high wing loadings also result in high rates of descent and large control forces for recovery. The position of the ailerons may have a considerable effect on both the steady spin and the recovery.

PB L 48746-R. U. S. BUREAU OF AERONAUTICS. Inflation gear; multi-place life raft and model AR-4 lifeboat. (Revision of PB 48746, vol. 4, p. 713). (NAVAER Specification 23-I-3). Mar 1947. 14 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 48744-R. U. S. BUREAU OF AERONAUTICS. Inflation gear, pararaft and packet raft. (Partial revision of PB 48744, vol. 4, p. 713). (NAVAER Specification 23-I-2). Apr 1947. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 49117-R. U. S. BUREAU OF AERONAUTICS. Paulins, life raft (aircraft use). (Partial revision of PB 49117, vol. 4, p. 810). (NAVAER Specification 23P18). Jun 1947. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 79112. WETMORE, JOSEPH W. and SAWYER, RICHARD H. Flight tests of P2A-2 airplane with full-span slotted flaps and trailing-edge and slot-lip ailerons. (Natl Advisory Committee for Aeronautics Rept L-272, AR Rept 3L07) Dec 1943. 44 p. Price: Microfilm-$1.00 - Photostat-$3.00

Flight tests were made of a Navy P2A-2 airplane specially equipped with full-span NACA slotted flaps and with two sets of lateral controls: internally balanced, sealed ailerons on the flap trailing edge for use with flaps up and slot-lip ailerons, immediately forward of the flaps, for use with flaps down. The tests, made with various flap positions ranging from neutral to 50° included determination of effectiveness and stick forces of the two aileron systems, power-off maximum lift coefficients, and static longitudinal stability. A bibliography, diagrams, graphs, and photographs are included.

## LAND TRANSPORTATION

PB L 31905. STEPHENS, W. M. Power absorption trailers. Final report. (Aberdeen Proving Ground Rept 4481/23) Jun 1943. 28 p. Price: Microfilm-$1.00 - Photostat-$2.00

*PB L 81843. U. S. FIELD INFORMATION AGENCY, TECHNICAL. Mercedes-Benz 4 cylinder Diesel vehicle, engine type, "OM 138" manufactured by Daimler-Benz A. G., Stuttgart-Untertürkheim. (Tech Bulletin T-3) Mar 1947. 2 p. Price: Mimeo-$0.25

This small Diesel engine "OM 138" was originally designed for use in passenger cars. However, its development for this use never went beyond the experimental stage. It was used successfully in both a one ton and a one and one-half ton truck, manufactured by Daimler-Benz. It has 4 cylinders in line with a bore of 90 mm. and a stroke of 100 mm., displacement is 2545 cu. cm. and compression ratio 1:19. At normal speed, 2800 r. p.m., it develops a brake horse power of 44 h. p. FIAT Microfilm No. 13-6 shows drawings of assemblies, sub-assemblies, details, standard parts and stock lists. The completeness of the data in that reel should make possible the manufacture of such engines, without the expenditure of any costly engineering and design time.

*PB L 81844. U. S. FIELD INFORMATION AGENCY, TECHNICAL. Motorcycle model R-23, manufactured by Bayerische Motoren Werke A. G., Muenchen. (Tech Bulletin T-4) Mar 1947. 1 p. Price: Mimeo-$0.25

A complete set of drawings of assemblies, sub-assemblies, the details of standard parts, and stock lists of the BMW motorcycle Model R-23 are shown on FIAT Microfilm No. 258-G, PB 70497, vol. 5, p. 812. The name BMW is internationally known because of excellent design, good workmanship, and outstanding performance. The completeness of the data shown on that microfilm makes production of Model R-23 possible, without the expenditure of any costly engineering and design time.

PB L 3296-S. U. S. ORDNANCE DEPARTMENT. List of all service parts for truck, 1/4-ton, 4 x 4 (Dodge, model T-214). (Technical reference: Tech Manual 9-808) (Catalog ORD 9, Standard Nomenclature List O-502) May 1945. 429 p. Price: Microfilm-$9.00 - Photostat-$29.00

This publication supersedes ORD 9 portion of ORD 7-8-9 SNL O-502, dated August 15, 1944. The parts listed in this catalog are divided into groups and subgroups in accordance with standardized government grouping, facilitating the location and identification of each part. Indexes are listed in the following sequence: Illustrations, Alphabetical, Numerical (Ordnance Drawing Numbers, Manufacturers' and Vendors' Part Numbers and Stock Numbers).

PB L 86324-S. U. S. ORDNANCE DEPARTMENT. Ordnance supply catalog: Organizational spare parts and equipment, higher echelon spare parts and equipment (Addendum) and service parts catalog for motorcycle, chain drive, solo (Harley-Davidson model WLA). (Supplement to PB 86324) (Army Service Forces Catalog ORD 7-8-9; Standard Nomenclature List O-523) (Combined) Sep 1944. 320 p. Price: Microfilm-$7.00 - Photostat-$32.00

Besides a General Information Section, this Standard Nomenclature List contains the following sub-divisions: Organizational Spare Parts and Equipment (ORD 7), Higher Echelon Spare Parts and Equipment (Addendum) (ORD 8), Service Parts Catalog (ORD 9) and Indexes. The parts listed are divided into major and minor groups in accordance with Standardized Government Grouping. Exploded views are used throughout the book to aid in locating and identifying parts. Changes 1, 1 March 1945 and Changes 2, 30 April 1945 are included.

PB L 86324. U. S. WAR DEPARTMENT. Motorcycle, solo (Harley-Davidson Model WLA). (Tech Manual 9-879) Oct 1943. 206 p. Price: Microfilm-$6.00 - Photostat-$21.00

This manual contains a description of the Harley-Davidson motorcycle and technical information required for identification, use and care of the vehicle. The manual is divided into two parts. Part One, section I through section VI, gives vehicle operating instructions. Part Two, section VII through section XXV, gives vehicle maintenance instructions. The subject motorcycle is a 2-cylinder solo powered by a V-type, air-cooled gasoline engine, operating on conventional 4-stroke, 4-cycle principles.

## MISCELLANEOUS

*PB L 81845. BRILL, RUDOLF and others. X-ray study of magnesium oxide. (FIAT Rept 1134). 1946. 17 p. Price: Mimeo-$0.50

The electron distribution in the MgO grid is determined by means of the Fourier synthesis. The lowest electron density between ions is found to be only 0.6 El. Å$^2$, while the comparable value for NaCl is 0.23 El. Å$^2$. Three dimensional analyses show that in the MgO grid higher electron densities are found at all locations sufficiently far from the atomic centers than are found in NaCl or other alkali halides. This is ascribed tho the fact that in MgO there exists already an intermediate condition between ionic and covalent bond. Text in German.

PB L 33275. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE. Preliminary reports list No. 225. Jan-Mar 1946. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00

Includes BIOS interim investigation reports No. 615/1, 12A032/3, 611/1, 618, 2/1, 546/1, 615/2, 343/2, 237/1, 617.

Miscellaneous (contd)

PB L 31832. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 297. Mar 1946. 10 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim Investigation Report Nos 611/2, 611/4, 776, 777, 688/1, 325/9, 303/3, 778, 779, 615/3.

PB L 31833. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 298. Feb-Apr 1946. 9 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim investigation report Nos. 22L3/2, 22L3/3, 22L3/4, 22L3/6, 22L3/5, 22L3/7, 22L3/8, 995, 996, 22E/10, TM46/43, 46/15, 22L/16/43, 22L/16/41 and 22L/16/42.

PB L 31834. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 299. Mar-Apr 1946. 10 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim investigation report Nos. TM 46/27, TM 46/30, TM/46/32, TM 46/33, TM 46/34, TM/46/35, TM 46/36, TM 46/37, TM 46/38, TM 46/39, TM 46/42, TM 46/41.

PB L 31835. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 322. Apr-May 1946. 9 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim investigation report Nos. 22E-26/1, 22E-26/2, 22E-26/3, 22E-26/4, 22E-26/5, 22E-26/6, 22E-26/7, 22E-26/8, 22E-26/9, 22E-26/10, 22E-26/11, 22E-26/12, 22E-26/13, 22E-26/14, 22E-26/15 and 22E-26/16.

PB L 31836. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 328. Apr-May 1946. 8 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim investigation report Nos. 22E 12/14, 22E-3/28, 22E-3/27, 22E-21/32, 22E-21/31, 22E-10/21, 22E-10/22, 22E-10/19, 22E-10/20.

PB L 31837. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 330. Mar-Apr 1946. 9 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim investigation report Nos. 22G-8/25, 22G-8/26, 22E-3/26, TM46/63, TM46/68, TM46/54, 783, 793, 825 and 217/7.

PB L 31838. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 331. Aug-Sep 1945, Mar-Apr 1946. 12 p. Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim investigation report Nos. 329/2, 448/1, 562, 824, Q56, 790, Q21D, P3J, E81, E161A and F75M.

PB L 31839. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 332. Feb-Apr 1946. 10 p.
Price: Microfilm-$1.00 - Photostat-$1.00 (Limited mimeo supply $0.25)
Includes BIOS Interim Investigation Reports Nos. F75L, 815, 827, 832, 324/2, 325/8 and 75/7.

PB L 31911. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 329. Apr 1946. 8 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim Investigation report Nos. TM/46/55, 22E 12/11, 22E 12/12, 22G-8/16, 22G-8/17, 22G-8/18, 22G-8/19, 22G-8/20, 22G-8/21, 22G-8/22, 22G-8/23 and 22G-8/24.

PB L 31840. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 341. Feb-May 1946. 8 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim Investigation Report Nos. 280/3, TM46/97, 825/1, 530/3, 382/3, 487/5, 615, and 616 and 609.

PB L 31841. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 342. May 1946. 7 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim Investigation report Nos. 22E-3/34, 22L-24/7, 22L-24/8, 415/1, 22E-11/10, 22E-11/11, 22E-11/14, 22E-11/21, 22E-11/18.

PB L 31842. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 343. Apr-May 1946. 7 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim Investigation reports Nos. 625-626-617-618-1067.

PB L 31912. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 344. Apr-May 1946. 9 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim Investigation report Nos. 391/3, 391/2, 1072, 840, 837, 674/3, 190/10, 623, 624, 1079 and 1080.

PB L 31913. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 345. Apr-May 1946. 8 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim Investigation report Nos. 876, TM46/83, 487/6, 838, 1068, 1069, 590/1, 203/32, 627 and 628.

PB L 70128. DEUTSCHER NORMENAUSSCHUSS, BERLIN.
Tables of German industrial standards. (FIAT Microfilm Reel C-3, Frames 2872-4135). 1926-1944. 1263 f.
Price: Microfilm-$6.00 - Enlargement print-$126.50
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. Text in German.

| Frames | Title | Price |
|---|---|---|
| 2872-2888 PB L 70128 | Standards for building material. In German. | $2.00 |
| 2889-2892 PB L 70128 | German standards for the building trade. In German. | 1.50 |
| 2893-2899 PB L 70128 | German standards for hard concrete materials and coverings. In German. | 1.50 |
| 2900-2905 PB L 70128 | German standards for the building trade. In German. | 1.50 |
| 2906-2928 PB L 70128 | German standards for the building trade. In German. | 2.50 |
| 2929-2930 PB L 70128 | German standards for the building trade. In German. | 1.50 |

Miscellaneous (contd)

2931-2935 PB L 70128 — German standards for the building trade. In German. 1.50

2936-2953 PB L 70128 — German standards for nails and pins. 1940-1944. In German. 2.00

2954-2955 PB L 70128 — German standards for the building trade. 1940/1941. In German. 1.50

2956-2958 PB L 70128 — German standards for the building trade. 1934, 1939. In German. 1.50

2959-2971 PB L 70128 — German standards for sewerage systems. In German. 1.50

2972 PB L 70128 — German standards for the building trade. In German. 1.50

2973-2984 PB L 70128 — German standards for the cultivation construction trade. Dec 1931, Oct 1933. In German. 1.50

2985-2990 PB L 70128 — German standards for hand-tools. Aug 1939. In German. 1.50

2991-2992 PB L 70128 — Standard tables for wire-netting with square meshes for building, forestry and farming purposes. Aug 1939. In German. 1.50

2993-3059 PB L 70128 — German standards for sewerage systems. May 1936 - Nov 1942. In German. 7.00

3060-3119 PB L 70128 — German standards for the building trade. Jan/Feb 1928. In German. 6.00

3120-3152 PB L 70128 — German standards for field-, narrow gauge and ordinary railroads. Jul 1928-1931. In German. 3.50

3153-3165 PB L 70128 — German standards for the mining industry. Jan 1926. In German. 1.50

3166-3168 PB L 70128 — German standards for the building trade. May 1941, Dec 1942. In German. 1.50

3169-3203 PB L 70128 — German standards for household ovens and stoves. 1933-1938. In German. 3.50

3204-3315 PB L 70128 — German standards for abbreviations. (Nomenclature). In German. 11.50

3316-3384 PB L 70128 — German standards for elevators. Apr 1927. In German. 7.00

3385-3407 PB L 70128 — German standards for sanitary installations and sewerage. Mar 1932-May 1935. In German. 2.50

3408-3412 PB L 70128 — German standards for the building trade. Jan 1928. In German. 1.50

3413-3425 PB L 70128 — German standards for machine tools. Jan 1928. In German. 1.50

3426 PB L 70128 — Standard tables on technical reports and publications. In German. 1.50

3427-3446 PB L 70128 — German standards for bolts. Oct 1938. In German. 2.00

3447-3504 PB L 70128 — German standards for lettering. In German. 6.00

3505-3612 PB L 70128 — German standards for turnbuckles. In German. 11.00

3613-3722 PB L 70128 — German standards for agricultural equipment. Apr 1926-Apr 1927. In German. 2.00

3723-3749 PB L 70128 — German standards for libraries. Mar 1940. In German. 3.00

3750-3759 PB L 70128 — German standards for measuring devices. Apr 1929. In German. 1.50

3760-3785 PB L 70128 — German standards for foundries and rolling mills. Oct 1939-Apr 1941. In German. 3.00

3786-3837 PB L 70128 — German railroad standards. Apr 1927-Oct 1942. In German. 5.50

3838-4110 PB L 70128 — German standards for materials and their testing. Jan 1935-1944. In German. 27.50

4111-4135 PB L 70128 — German standards for machine tools. 1927-1940. In German. 2.50

PB L 70128-S. DEUTSCHER NORMENAUSSCHUSS, BERLIN. Tables of German industrial standards. (FIAT Microfilm Reel C-3, Frames 2872-4135, abstract cards). 1926-1944. 38 p. Price: Microfilm-$1.00 - Photostat-$3.00

Brief abstracts of the individual items on the above reel No. C-3, PB 70128, prepared by the FIAT personnel in Germany.

PB L 70133. DEUTSCHER NORMENAUSSCHUSS, BERLIN. Tables of German industrial standards. (FIAT Microfilm Reel C-5, Frames 5373-6434) 1927-1944. 1061 f. Price: Microfilm-$6.00 - Enlargement print-$106.50.

This reel was prepared by FIAT investigators in Germany. 25 individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. Text in German.

| Frames | Title | Price |
|---|---|---|
| 5373-5612 PB L 70133 | Standard tables for gas and water fittings. 1928-1940. In German. | $24.00 |
| 5613-5614 PB L 70133 | Textile industry. 1927. In German. | 1.50 |
| 5615-5632 PB L 70133 | Hoisting engines. 1929-1934. In German. | 2.00 |
| 5633-6019 PB L 70133 | Standards of the building trade. 1933-1944. In German. | 39.00 |
| 6020-6059 PB L 70133 | German standards for photographic practice. 1931-1943. In German. | 4.00 |
| 6060-6075 PB L 70133 | German standards for office furniture. 1929-1939. In German. | 2.00 |
| 6076-6078 PB L 70133 | Standards for beds. n.d. In German. | 1.50 |
| 6079-6080 PB L 70133 | Standards for tables. 1936. In German. | 1.50 |
| 6081-6083 PB L 70133 | Standards for lids and rings of preserving jars. 1939. In German. | 1.50 |
| 6084-6090 PB L 70133 | Standards for beds in dormitories. 1936-1937. In German. | 1.50 |
| 6091-6094 PB L 70133 | Automotive engineering. 1932-1934. In German. | 1.50 |
| 6095-6124 PB L 70133 | German standards for spectacles. 1936-1943. In German. | 3.00 |
| 6125-6165 PB L 70133 | German standards for gas and water installations. 1931-1944. In German. | 4.50 |
| 6166-6169 PB L 70133 | Standards for laundry machines. 1939. In German. | 1.50 |
| 6170-6186 PB L 70133 | Standards for corrosion. 1939. In German. | 2.00 |

Miscellaneous (contd)

| | | |
|---|---|---|
| 6187-6193<br>PB L 70133 | Conversion table for ("zoll") inches into millimeters and vice versa. 1935. In German. | 1.50 |
| 6194-6201<br>PB L 70133 | German standards for conveyors. 1933. In German. | 1.50 |
| 6202-6226<br>PB L 70133 | German standards for deep drilling practice. 1933-1943. In German. | 3.00 |
| 6227-6252<br>PB L 70133 | German standards for tools. 1935-1944. In German. | 3.00 |
| 6253-6261<br>PB L 70133 | German standards for paper and stationary. 1934-1941. In German. | 1.50 |
| 6262-6309<br>PB L 70133 | German standards for lighting practice. 1935-1940. In German. | 5.00 |
| 6310-6311<br>PB L 70133 | German standards for acoustics. 1942. In German. | 1.50 |
| 6312-6345<br>PB L 70133 | German standards for hotel articles. 1928-1941. In German. | 3.50 |
| 6346-6434<br>PB L 70133 | German standards for tools. 1930-1939. In German. | 1.50 |

PB L 70133-S. DEUTSCHER NORMENAUSSCHUSS, BERLIN. Tables of German industrial standards. (FIAT Microfilm Reel O-5, Frames 5373-6434. Abstract cards.) 1927-1944. 25 p. Price: Microfilm-$1.00 - Photostat-$2.00. Brief abstracts of the individual items on the above reel O-5, PB. 70133, prepared By FIAT personnel in Germany.

PB L 70127. DEUTSCHER NORMENAUSSCHUSS, BERLIN. Tables of German industrial standards. (FIAT Microfilm Reel O-11, Frames 1589-2509) 1930-1944. 920 f. Price: Microfilm-$6.00 - Enlargement print-$92.00. This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. Text in German.

| Frames | Title | Price |
|---|---|---|
| 1589-1811<br>PB L 70127 | Locomotive construction. 1934-1941. In German. | $22.50 |
| 1812-2434<br>PB L 70127 | Electrical engineering. 1944. In German. | 62.50 |
| 2435-2437<br>PB L 70127 | Screw joints for pipes. 1930. In German. | 1.50 |
| 2438-<br>PB L 70127 | Testing of fibres, spun, and woven textiles. 1937. In German. | 1.50 |
| 2439-2448<br>PB L 70127 | Electric heating practice. 1937. In German. | 1.50 |
| 2449-2509<br>PB L 70127 | Standards for the electrical engineering. 1937. In German. | 6.50 |

PB L 73883. ERLANGEN, GERMANY. UNIVERSITY. A collection of doctors' theses. (FIAT Microfilm Reel D-189, Frames 8113-8988) 1938-1940. 375 f. Price: Microfilm-$6.00 - Enlargement print-$87.50. This FIAT microfilm reel consists of 21 doctoral theses in the field of veterinary medicine and biology. The material was obviously seized in the library of the above university. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 8113-8135<br>PB L 73883 | Experiments for the preparation of granulated active carbon from boneblack. By Peters. 1938. In German. | $2.50 |
| 8136-8159<br>PB L 73883 | Acidity, basicity and physiological effect. By Plüddemann. 1939. In German. | 2.50 |
| 8160-8193<br>PB L 73883 | Charles Darwin's theory of evolution as an expression of the English philosophy of life of the 19th century. By Rieckmann. 1938. In German. | 3.50 |
| 8194-8230<br>PB L 73883 | Contribution to the anatomy and biology of Polytrichaceae. By Schulz. 1939. In German. | 4.00 |
| 8231-8265<br>PB L 73883 | On the ability of stem cuttings for repeated root formation. By Siebs. 1939. In German. | 3.50 |
| 8266-8288<br>PB L 73883 | The fractionated distribution of neutral substances: a contribution to the knowledge of the methylnaphthalene fraction of coal tar. By Turowski. 1939. In German. | 2.50 |
| 8289-8336<br>PB L 73883 | Studies of the breeding process in seven breeding farms of black-colored ("schwarzbunt") flat-country cattle in Ostfriesland, by means of their most important cow families. By Beckhusen. 1939. In German. | 5.50 |
| 8337-8354<br>PB L 73883 | Steffen's method of extraction of sugar from molasses. By Fischer. 1939. In German. | 2.00 |
| 8355-8433<br>PB L 73883 | Suppositions and directives for the mechanization of agriculture in Esthonia. By Järvesoo. 1939. In German. | 8.00 |
| 8434-8471<br>PB L 73883 | Investigations of Alternaria solani Jones et Grout, particularly regarding pathogenesis for potato tubers, depending on the external factors. By Klaus. 1940. In German. | 4.00 |
| 8472-8510<br>PB L 73883 | Investigations on debatable questions concerning the postembryonal development of the intestinal tract of the honey-bee. By Kusmenko. 1939. | 4.00 |
| 8511-8559<br>PB L 73883 | Mechanism of reaction in the synthesis of the cellular substance of Torula yeast. By Plottner. 1940. In German. | 5.00 |
| 8560-8598<br>PB L 73883 | Investigations into the expenditure for transportation and organization in agriculture. By Prien. 1940. | 4.00 |
| 8599-8625<br>PB L 73883 | The influence of water and soil on the crop and quality of various vegetables. By Scholz. 1940. In German. | 3.00 |
| 8626-8640<br>PB L 73883 | The effect of several carbohydrate decomposing enzymes on differently stored vegetables (asparagus and beans). By Riethus. 1940. In German. | 1.50 |
| 8641-8684<br>PB L 73883 | Historical development, causal relations and consequences of the price differences between grain and improved agricultural products. n.d. In German. | 4.50 |

Miscellaneous (contd)

8685-8719 PB L 73883 — The problem of just prices in agriculture : a critical analysis of the value and price theory of the "classicists of economic liberalism" and of the "liberal agrarian scientists". By Graf von Sparr. 1940. In German. 3.50

8720-8751 PB L 73883 — Comparative investigations regarding the production of cellulose from potato tops of different origin. By Wilke. 1940. In German. 3.50

8752-8783 PB L 73883 — Experiments for ascertaining how far small infusions will spread within the cavity system of diseased parts of udders. By Heidrich. 1939. In German. 3.50

8784-8896 PB L 73883 — The Reich animal breeding law and its effect hitherto upon the breedings in the Rhineland. By Becker. 1940. In German. 11.50

8897-8988 PB L 73883 — The economic situation of agriculture in the Rhön emergency area. By Bockhorn. 1939. In German. 9.50

PB L 74189. ERLANGEN, GERMANY, UNIVERSITY. A collection of doctors theses. (FIAT Microfilm Reel D-195, Frames 3853-4915) 1937-1941. 863 f. Price: Microfilm-$6.00 - Enlargement print-$86.50

This FIAT microfilm reel consists of 21 items in the field of farming and animal husbandry. The material was obviously seized in the library of the above university. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 3853-3868 PB L 74189 | On the knowledge of the conversion of calcium cyanamide in the soil. By Wienhuse. 1940. In German. | $2.00 |
| 3869-3884 PB L 74189 | The albumin, globulin and fibrin content of the serum or plasma of healthy and ill horses and cattle. By Demski. 1941. In German. | 2.00 |
| 3885-3895 PB L 74189 | The vitamin C content of the spinal fluid of healthy and ill cattle. By Gunther. 1940. In German. | 1.50 |
| 3896-3910 PB L 74138 | Contribution to the biology of the pathogenic agent of epizootic mouth and hoof disease which started in Germany in 1937. By Hölscher. 1939. In German. | 1.50 |
| 3911-3950 PB L 74189 | Examination of the withers and shoulder of horse. By Meier. 1911. In German. | 4.00 |
| 3951-3972 PB L 74189 | Effect of soluble barium salts on horses. By Metz. 1939. In German. | 2.50 |
| 3973-3987 PB L 74189 | Anatomical studies of two cases of amorphus in cow and goat. By Pusch. 1921. In German. | 1.50 |
| 3988-4020 PB L 74189 | Influence of osmotic pressure on the growth of enteritis bacteria in liquid culture medium. By Venske. 1940. In German. | 3.50 |
| 4021-4037 PB L 74189 | The spreading of rabies in former Poland. By Warrikoff. 1941. In German. | 2.00 |
| 4038-4048 PB L 74189 | Experiments for the treatment of chicken-pox with "Albucid" ointment. By Weldi. 1941. In German. | 1.50 |
| 4049-4104 PB L 74189 | Investigations on the influence of increasing doses of potassium and nitrogen on the crop, quality and durability of various vegetables and on the problem of the experimental technique in cultivating vegetables. By Buschhaus. 1941. In German. | 6.00 |
| 4105-4202 PB L 74189 | Significance of and duties in live-stock holding on farms, with special regard to the soil conditions in Luxembourg. By Colbach. 1941. In German. | 10.00 |
| 4203-4311 PB L 74189 | The most important stallion lines of Westphalian warm-blood stud-farms. By Haselon. 1941. In German. | 11.00 |
| 4312-4380 PB L 74189 | The Rhineland poultry breed-book and its importance for poultry breeding on farms. By Havermann. 1940. In German. | 7.00 |
| 4381-4451 PB L 74189 | Carrying-out the milk-marketing regulations in Munich, with special consideration of the distribution costs before and after the reorganisation of the marketing of milk. By Henning. 1941. In German. | 7.50 |
| 4452-4493 PB L 74189 | The significance of the basicity of blast furnace slag ("Huttenkalk") for its use as lime fertilizer. By Hoffmann. 1940. In German. | 4.50 |
| 4494-4759 PB L 74189 | Return to mechanical milking, with special consideration of economic problems. By Lampe. 1941. In German. Frames 4510-4609 and 4620-4719 are missing, without detracting from the completeness of this document. | 7.00 |
| 4760-4776 PB L 74189 | The serviceability of condensation products of cyanamide and urea with aldehydes, as fertilizer. By Lichtenberg. 1941. In German. | 2.00 |
| 4777-4800 PB L 74189 | Annual data of milk yields, when checked daily, every 7, 14, 21, and 28 days. By Meerpohl. 1941. In German. | 2.50 |
| 4801-4887 PB L 74189 | Absorption of ammonium nitrogen and nitrate nitrogen by plant embryos. By Nickolay. 1941. In German. | 9.00 |
| 4888-4915 PB L 74189 | Effect of lignite and humus substances prepared therefrom on the physical properties of light soil. By Pfingsten. 1939. In German. | 3.00 |

PB L 80866. EYRING, C. F. Reverberation studies. Feb 1942. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

To date, the reverberation studies of the ocean have been limited to two frequencies - one and twenty-four kilocycles, in ocean depths as great as 600 fathoms. Early it became evident that one could not record at readable magnitudes the original signal and the reverberation at the same level. Accordingly, a mechanical and electrical keying mechanism was developed which permits the signal to be picked up under attenuation and the reverberation to be recorded with the attenuation removed. In this study conclusions are given on the data thus obtained.

PB L 22292-S. GERMANY. REICHSFÜHRER SS. AMT "AHNENERBE". Correspondence of concentration camps on procurement of material for research work. n. d. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

This is a supplement to a report of the same source as above, entitled "Correspondence of Dachau and Natzweiler concentration camps on procurement of material for research work" (PB 22292, vol. 2 of the Bibliography on page 422). In the present document the subjects for experimentation and the scientists entrusted with the experiments are given. Data on experiments with hay bacilli are attached.

PB L 70124. I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN-HÖCHST, GERMANY. Tables of German industrial standards. (FIAT Microfilm Reel O-7, Frames 7726-8468) 1940-1943. 742 f. Price: Microfilm-$6.00 - Enlargement print-$74.50

This reel was prepared by FIAT investigators in Germany. 31 individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 7726-7745 PB L 70124 | German standards for tools. 1942-1943. In German. | $2.00 |
| 7746-7752 PB L 70124 | German standards for the building industry. 1940. In German. | 1.50 |
| 7753-7754 PB L 70124 | German standards for the sugar industry. 1943. In German. | 1.50 |
| 7755-7761 PB L 70124 | German standards for woodworking machines. 1943. In German. | 1.50 |
| 7762 PB L 70124 | German standards for runner stones for paper production. 1942. In German. | 1.50 |
| 7763-7794 PB L 70124 | German standards for deep boring apparatus. 1943. In German. | 3.50 |
| 7795 PB L 70124 | Standard table concerning agricultural tractors. 1942. In German. | 1.50 |
| 7796 PB L 70124 | Standard table for sausage-stuffing machines. 1942. In German. | 1.50 |
| 7797-7806 PB L 70124 | German standards for tools. 1942. In German. | 1.50 |
| 7807-7818 PB L 70124 | German standards for railroading. 1942. In German. | 1.50 |
| 7819-7827 PB L 70124 | German standards for agricultural machines. 1940. In German. | 1.50 |
| 7828-7832 PB L 70124 | German standards for fire prevention. 1942. In German. Frames 7830 and 7832 will not reproduce well. | 1.50 |
| 7833-7840 PB L 70124 | German standards for housing construction. 1942. In German. | 1.50 |
| 7841-7852 PB L 70124 | German standards for locomotive construction. 1942. In German. | 1.50 |
| 7853-8005 PB L 70124 | German standards for electrical engineering. 1941-1943. In German. | 5.50 |
| 8006-8154 PB L 70124 | Summary of German standards for general machine construction. 1940-1942. In German. Frame 8041 will not reproduce well. | 5.00 |
| 8155-8170 PB L 70124 | German standards for the paper industry. 1943. In German. | 2.00 |
| 8171-8209 PB L 70124 | German standards for tools. 1940-1943. In German. | 4.00 |
| 8210-8211 PB L 70124 | German standards for window glass. 1943. In German. | 1.50 |
| 8212-8267 PB L 70124 | German standards for machine tools. 1942-1943. In German. | 6.00 |
| 8268-8280 PB L 70124 | German standards for steam boilers and pipe lines. 1943. In German. | 1.50 |
| 8281-8284 PB L 70124 | German standards for construction engineering. 1943. In German. | 1.50 |
| 8285-8300 PB L 70124 | German standards for tool manufacturing. 1940-1943. In German. | 2.00 |
| 8301-8328 PB L 70124 | German standards for the paper industry. 1943. In German. | 3.00 |
| 8329-8345 PB L 70124 | German standards for the ceramics industry. 1942. In German. | 1.50 |
| 8346-8364 PB L 70124 | German standards for machine construction. 1941-1942. In German. | 2.00 |
| 8365-8387 PB L 70124 | German standards for deep well boring technique. 1943. In German. | 1.50 |
| 8388-8405 PB L 70124 | German standards for the glass bottle industry. 1942. In German. | 2.00 |
| 8406 PB L 70124 | Standard table on case-hardening vessels. 1943. In German. | 1.50 |
| 8407-8457 PB L 70124 | German standards for general machine construction and tools. 1941-1943. In German. | 5.50 |
| 8458-8468 PB L 70124 | German standards for pressed materials. 1941-1943. In German. | 1.50 |

PB L 70124-S. I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN-HÖCHST, GERMANY. Tables of German industrial standards. (FIAT Microfilm Reel O-7, Frames 7726-8468, abstract cards). 1940-1943. 31 p. Price: Microfilm-$1.00 - Photostat-$3.00

Brief abstracts of the individual items on the above reel O-7, PB 70124, prepared by FIAT personnel in Germany.

PB L 70125. I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN-HÖCHST, GERMANY. Tables of German industrial standards. (FIAT Microfilm Reel O 8, Frames 8469-9492) 1931-1942. 1023 F. Price: Microfilm-$6.00 - Enlargement print-$102.50.

This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. In German.

| Frames | Title | Price |
|---|---|---|
| 8469 PB L 70125 | Standard tables. July 31, 1942. In German. | $ 1.50 |
| 8470-8472 PB L 70125 | German navy standard tables. 1940. In German. | 1.50 |
| 8473-8501 PB L 70125 | Replacement standards of material for engine and ship building. 1940. In German. | 3.00 |
| 8502-8507 PB L 70125 | Standards for legends on drawings. 1938. In German. | 1.50 |
| 8508-8851 PB L 70125 | Standard tables for pipe lines. 1939-1941. In German. | 35.00 |

Miscellaneous (contd)

| | | |
|---|---|---|
| 8852-9137<br>PB L 70125 | Standards for electrical engineering. 1940. In German. | 29.00 |
| 9138-9156<br>PB L 70125 | Standards for materials (metallic). 1941. In German. | 2.00 |
| 9157-9158<br>PB L 70125 | Table of groups of standards with ordinal numbers. 1937. In German. | 1.50 |
| 9159-9205<br>PB L 70125 | Standards for forms, drawings, etc. 1937-1940. In German. | 4.50 |
| 9206-9207<br>PB L 70125 | Light metals. 1937. In German. | 1.50 |
| 9208-9213<br>PB L 70125 | Electrical engineering. 1938. In German. | 1.50 |
| 9214-9223<br>PB L 70125 | Forms, drawings, etc. 1938. In German. | 1.50 |
| 9224-9225<br>PB L 70125 | Light metals. 1938. In German. | 1.50 |
| 9226<br>PB L 70125 | Triangular head screws. 1938. In German. | 1.50 |
| 9227-9228<br>PB L 70125 | Marking standards for gages. 1938. In German. | 1.50 |
| 9229-9232<br>PB L 70125 | Electrical engineering. 1938. In German. | 1.50 |
| 9233-9234<br>PB L 70125 | Roller bearings. 1938. In German. | 1.50 |
| 9235-9236<br>PB L 70125 | Standards for drawings of gages and implements. 1938. In German. | 1.50 |
| 9237-9251<br>PB L 70125 | Materials. 1939. In German. | 1.50 |
| 9252-9271<br>PB L 70125 | Barrack ovens (Reichsarbeitsdienst). 1942. In German. | 2.00 |
| 9272-9293<br>PB L 70125 | Steam boiler standards. 1942. In German. | 2.50 |
| 9294-9297<br>PB L 70125 | Welding of plastics. 1942. In German. | 1.50 |
| 9298-9299<br>PB L 70125 | Tropic testing of materials. 1941. In German. | 1.50 |
| 9300-9303<br>PB L 70125 | Vertical pipes for gas and electric lines. n. d. In German. | 1.50 |
| 9304-9385<br>PB L 70125 | Surveying practice. 1932. In German. | 8.50 |
| 9386-9389<br>PB L 70125 | Filling stations. 1937. In German. | 1.50 |
| 9390-9428<br>PB L 70125 | Production and use of house gas. 1933-1938. In German. | 4.00 |
| 9429-9431<br>PB L 70125 | Water meters. 1938. In German. | 1.50 |
| 9432-9465<br>PB L 70125 | Rules. 1936. In German. | 1.50 |
| 9466-9484<br>PB L 70125 | Printing industry. 1931. In German. | 2.00 |
| 9485-9492<br>PB L 70125 | Optics of spectacles. 1931. In German. | 1.50 |

PB L 70125-S. I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN-HOCHST, GERMANY. Tables of German industrial standards. (FIAT Microfilm Reel O 8, Frames 8469-9492, abstract cards) 1931-1942. 31 p. Price: Microfilm-$1.00 - Photostat-$3.00.
Brief abstracts of the individual items on the above reel O 8, PB 70125, prepared by FIAT personnel in Germany.

PB L 74699. KARLSRUHE, GERMANY, TECHNISCHE HOCHSCHULE, Dissertations in natural sciences. (FIAT Microfilm Reel M 84, Frames 3543-4400) 1944. 858 f. Price: Microfilm-$6.00 - Enlargement print-$86.00.
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. In German.

| Frames | Title | Price |
|---|---|---|
| 3543-3573<br>PB L 74699 | Studies on drying by means of atomizing. By C. Edeling. n.d. In German.<br>These frames show only photographs, drawings and graphs pertaining to the above mentioned thesis, text of which is part of Reel M 83, PB 73451, made available in Vol. 7, page 66, of this Bibliography. | $ 3.50 |
| 3574-3735<br>PB L 74699 | The influence of highly resistant steels on saving in weight and design in steel bridge engineering. By Otfried Erdmann. n. d. In German. | 16.50 |
| 3736-3912<br>PB L 74699 | Reproduction, true in color tone, of the relative color brightness in the photographic black and white method under the influence of different kinds of illumination with particular consideration of modern discharge lamps. By F. Ernst. n. d. In German. | 18.00 |
| 3913-3980<br>PB L 74699 | Oscillations of overflow weirs. By Exner. n. d. In German. | 7.00 |
| 3981-4026<br>PB L 74699 | Vapor table and Mollier's diagram for ammonia ranging up to the critical point. By Harald Funk. n. d. In German. | 5.00 |
| 4027-4081<br>PB L 74699 | General and special conditions of the velocity of insulation of the electron transmitter in the longitudinal field chamber. By Max Geiger. In German. | 6.00 |
| 4082-4145<br>PB L 74669 | Resistance coefficient and measuring errors of bellow gas meters with the flow of various gases. By Eberhard Hinze. n. d. In German. | 6.50 |
| 4146-4182<br>PB L 74669 | Investigations in petroleum bacteriology I. By Adelheid Miller. n. d. In German. | 4.00 |
| 4183-4351<br>PB L 74669 | Experimental and theoretical investigations for the development of a new type of roof-shaped weir. By Hans P. Miller. n. d. In German. | 17.00 |
| 4352-4400<br>PB L 74669 | Calculation of reinforced concrete road slabs for steel bridges. By Alfred Scheunert. n. d. In German.<br>This report is continued in Reel M 85, PB L 73530, Frames 4401-4460. | 5.00 |

PB L 81591. OSBOURNE, ALAN and others. Report on two German-built whaling factories: S.S. Terje Viken built in 1936 and S.S. Unitas built in 1937. n. d. 42 p. Price: Microfilm-$1.00 - Photostat-$3.00
In addition to the above report, this document also contains a comparison report of the Terje Viken and Unitas with the Balaena, a floating whaling-factory built at Belfast, Ireland in 1946. Tabulations and illustrations are included.

## CHEMICALS AND ALLIED PRODUCTS

GER. PATENT 712389. DURAND & HUGUENIN A.-G., BASEL, SWITZERLAND. Process for preparing mordant diazo dyes. Ger. patent application D 72831 IVd/22a, dated May 29, 1936. Oct 17, 1941. 3 p.
Available in photostatic copies at the rate of 20¢ a page from the U. S. Patent Office, Washington 25, D. C.

PB L 70317. GERMANY. REICHSPATENTAMT. A collection of patents, 1884-1941. (FIAT Microfilm Reel BB 83, Frames 2846-4012) 1164 f. Price: Microfilm-$6.00 - Enlargement print-$116.50
This FIAT microfilm reel consists of reproductions of 528 patents in the field of organic chemistry. Individual patents are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 2846-2847 PB L 70317 | I. G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN, GERMANY. Process for preparing nitro or amino compounds of pyroacridone. Class 12 p, group 1. Ger. patent 526 630, dated Sep 30, 1928. Inventor: Räth. In German. | $1.50 |
| 2848-2849 PB L 70317 | I. G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN, GERMANY. Process for preparing condensation products which contain nitrogen. Class 12 p, group 1. Ger. patent 527 960, dated Nov 1, 1928. Inventors: Rötger and Schlecht. In German. | 1.50 |
| 2850-2852 PB L 70317 | I. G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN, GERMANY. Process for preparing N-methyl compounds of the pyridine series. Class 12 p, group 1. Ger. patent 532 396, dated Apr 20, 1929. Inventors: Ernst and Berndt. In German. | 1.50 |
| 2853-2855 PB L 70317 | I. G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN, GERMANY. Process for preparing anthrapyridone-N-fatty acids. Class 12 p, group 1. Ger. patent 497 411, dated Sep 25, 1927. Inventor: Stein. In German. | 1.50 |
| 2856-2857 PB L 70317 | SCHERING-KAHLBAUM A.G., BERLIN. Process for preparing salt-like compounds of 2-phenylquinoline-4-carboxylic acid and its derivatives. Class 12 p, group 1. Ger. patent 504 167, dated Jun 18, 1926. Inventors: Brugsch and Horsters. In German. | 1.50 |
| 2858-2859 PB L 70317 | SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing N-alkyl diiodochelidamic acids. Class 12 p, group 1. Ger. patent 545 916, dated Dec 19, 1930. Inventors: Dohrn and Diedrich. In German. | 1.50 |
| 2860-2862 PB L 70317 | I. G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN, GERMANY. Process for preparing ethers of 6,8-dihydroxyquinoline. Class 12 p, group 1. Ger. patent 490 419, dated Sep 19, 1926. Inventors: Mietzsch and Klös. In German. | 1.50 |
| 2863-2864 PB L 70317 | CHEMISCHE FABRIK VON HEYDEN A.G., RADEBEUL, DRESDEN, GERMANY. Process for preparing pyridine compounds. Class 12 p, group 1. Ger. patent 595 361, dated | |
| 2865-2866 PB L 70317 | RIEDEL, J. D. & HAEN, E. DE, A. G., BERLIN. Process for preparing a water-soluble complex salt of 8-hydroxyquinoline. Class 12 p, group 1, Ger. patent 595 516, dated Dec 10, 1932. In German. | 1.50 |
| 2867 PB L 70317 | FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, HÖCHST AM MAIN, GERMANY. Process for preparing pyridine derivatives. Class 12 p, group 1. Ger. patent 79 863, dated Nov 12, 1893. In German. | 1.50 |
| 2868-2870 PB L 70317 | BOEHRINGER, C. H., SOHN A.G., NIEDER INGELHEIM, GERMANY. Process for preparing ketones of the pyridine and quinoline series. Class 12 p, group 1. Ger. patent 594 849, dated May 11, 1928. Inventors: Scheunig and Winterhalder. In German. | 1.50 |
| 2871-2872 PB L 70317 | SCHÜBEL, KONRAD. Process for preparing salts of 2-phenylquinoline-4-carboxylic acid salicylic ester. Class 12 p, group 1. Ger. patent 666 645, dated Apr 30, 1936. Inventors: Scheunig and Winterhalder. In German. | 1.50 |
| 2873 PB L 70317 | FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, HÖCHST AM MAIN, GERMANY. Process for preparing p-hydroxy-γ-phenylquinaldine. Class 12 p, group 1. Ger. patent 79 871, dated Apr 5, 1894. In German. | 1.50 |
| 2874-2877 PB L 70317 | I. G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN, GERMANY. Process for preparing halogenated pyridine anthraquinones. Class 12 p, group 1. Ger. patent 565 968, dated Jan 29, 1931. Inventors: Kunz and others. In German. | 1.50 |
| 2878-2880 PB L 70317 | I. G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN, GERMANY. Process for preparing quinaldines. Class 12 p, group 1. Ger. patent 567 273, Dated Jul 18, 1931. Inventors: Kunz and others. In German. | 1.50 |
| 2881-2882 PB L 70317 | KÖNIGS, ERNST and GREINER, HEINZ (Inventors). Process for preparing pyridine derivatives. Class 12 p, group 1. Ger. patent 566 693, dated Apr 28, 1931. In German. Supplement to patent 536 891. | 1.50 |
| 2883-2884 PB L 70317 | SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing 2-hydroxy-pyridine-5-stibic acid. Class | |

12 p, group 1. Ger. patent 530 495, dated Jul 1, 1924. Inventors: Binz and Räth. In German. 1.50
Supplement to patent 528 113.

2885 PB L 70317 SCHERING-KAHLBAUM A.G., BERLIN. Process for preparing N-substituted chelidamic acids. Class 12 p, group 1. Ger. patent 554 950, dated Apr 26, 1931. Inventors: Dohrn and Diedrich. In German. 1.50

2886-2887 PB L 70317 FIRMA CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing 2-phenyl-4-aminoethyl quinoline. Class 12 p, group 1. Ger. patent 421 087, dated Nov 19, 1922. Inventors: Dohrn and Zöllner. In German. 1.50

2888-2889 PB L 70317 HÜLKE, KURT and CLOTOFSKI, FRITZ (Inventors). Process for preparing di- and polypiperidyls. Class 12 p, group 1. Ger. patent 420 445, dated Apr 20, 1924. In German. 1.50

2890-2891 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN. Process for preparing 5,6-dialkoxy-8-amino-quinolines. Class 12 p, group 1. Ger. patent 531 083, dated Feb 18, 1930. Inventor: Schönhöfer. In German. 1.50

2892 PB L 70317 FIRMA CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing quinoline-4-aldehyde and its derivatives arylated in 2-position. Class 12 p, group 1. Ger. patent 421 088, dated Dec 2, 1922. Inventors: Dohrn and Zöllner. In German. 1.50

2893-2895 PB L 70317 DEUTSCHE GOLD- UND SILBER-SCHEIDEANSTALT VORM. ROESSLER, FRANKFURT AM MAIN, GERMANY. Process for preparing pyridine carboxylic acids. Class 12 p, group 1. Ger. patent 740 103, dated Nov 2, 1940. Inventors: Fuchs and Stitz. In German. 1.50

2896-2897 PB L 70317 FIRMA E. MERCK, DARMSTADT, GERMANY. Process for preparing derivatives of 1-phenyl- or 1-benzyl-3-methyl-isoquinoline. Class 12 p, group 1. Ger. patent 556 709, dated Nov 7, 1930. Inventors: Wolfes and Dobrowsky. In German. 1.50

2898 PB L 70317 SCHERING-KAHLBAUM A.G., BERLIN. Process for preparing 3,5-diiodo-4-pyridone. Class 12 p, group 1, Ger. patent 556 142, dated Feb 12, 1931. Inventors: Dohrn and Diedrich. In German. 1.50

2899-2900 PB L 70317 I. G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN, GERMANY. Process for preparing derivatives of 3-aminoacridine. Class 12 p, group 1, Ger. patent 555 934, dated Oct 18, 1930. Inventors: Mietzsch and others. In German. 1.50

2901-2902 PB L 70317 BÖHRING, C. H., SOHN A. G., NIEDER INGELHEIM, GERMANY. Process for preparing pyridine and piperidine alkalines. Class 12 p, group 1. Ger. patent 555 240, dated Jun 2, 1928. Inventors: Scheunig and Winterhalder. In German. 1.50

2903 PB L 70317 WINTERFELD, KARL (Inventor). Process for preparing a complex salt from acridine oxalate and oxalic acid. Class 12 p, group 1. Ger. patent 555 171, dated Apr 16, 1930. In German. 1.50
Supplement to patent 553 281.

2904-2905 PB L 70317 KÖNIGS, ERNST and GREINER, HEINZ (Inventors). Process for preparing pyridine derivatives. Class 12 p, group 1. Ger. patent 554 702, dated Mar 5, 1930. In German. 1.50
Supplement to patent 536 891.

2906-2907 PB L 70317 SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing o-alkyl diiodochelidamic acid. Class 12 p, group 1. Ger. patent 553 823, dated Jul 11, 1931. Inventors: Dohrn and Diedrich. In German. 1.50

2908 PB L 70317 WINTERFELD, KARL (Inventor). Process for preparing acridine salts of citric acid. Class 12 p, group 1. Ger. patent 553 281, dated Nov 5, 1929. In German. 1.50

2909-2913 PB L 70317 CHEMISCHE FABRIK VORMALS SANDOZ, BASEL, SWITZERLAND. Process for preparing anthrapyridone derivatives. Class 12 p, group 1. Ger. patent 580 283, dated Apr 30, 1931. In German. 1.50
Supplement to patent 578 995.

2914-2915 PB L 70317 HOFFMANN, F. & LA ROCHE & CO. A.G., BASEL, SWITZERLAND. Process for preparing 4-hydroxyquinoline-2-carboxylic acid. Class 12 p, group 1. Ger. patent 575 534, dated Sep 29, 1931. In German. 1.50

2916-2918 PB L 70317 FIRMA JOHANN A. WÜLFING, BERLIN. Process for preparing alkyl esters of 2-phenylquinoline-4-carboxylic acid and their homologues alkyl-substituted in the benzene nucleus. Class 12 p, group 1. Ger. patent 575 912, dated Feb 22, 1928. In German. 1.50

2919-2920 PB L 70317 I. G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Process for preparing quinoline sulfonic acids which are partially hydrogenated. Class 12 p, Group 1, Ger. patent 573 540, dated Jul 28, 1931. Inventors: Nicodemus and Wulff. In German. 1.50

2921-2922 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing piperidine and its derivatives. Class 12 p, group 1. Ger. patent 574 137, dated Aug 12, 1925. Inventors: Stolz and others. In German. 1.50

2923-2926 PB L 70317 WIBAUT, JOHAN PIETER and DEN HERTOG, HERMAN JOHANNES, JR. (Inventors). Process for preparing halogenated pyridine derivatives. Class 12 p, group 1. Ger. patent 574 655, dated Apr 22, 1932. In German. 1.50

2927-2928 PB L 70317 CHEMISCH-PHARMAZEUTISCHE A. G., BAD HOMBURG, FRANKFURT AM MAIN, GERMANY. Process for preparing derivatives of 1-benzyl isoquinoline. Class 12 p, group 1. Ger. patent 574 656, dated Aug 2, 1930. In German. 1.50

2929-2931
PB L 70317
CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY.
Process for preparing derivatives of monohalogen-N-alkyl-2-pyridones. Class 12 p, Group 1. Ger. patent 574 839, dated Jun 11, 1932. Inventor: Haack. In German. 1.50

2932-2933
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY.
Process for preparing 2-methyl-5-hydroxypiperidine. Class 12 p, group 1. Ger. patent 568 759, dated Oct 27, 1929. Inventors: Nicodemus and Wulff. In German. 1.50

2934-2935
PB L 70317
DEUTSCHE GOLD- UND SILBER-SCHEIDEANSTALT VORM. ROESSLER, FRANKFURT AM MAIN, GERMANY.
Process for preparing heterocyclic bases. Class 12 p, group 1. Ger. patent 569 630, dated Oct 11, 1931. In German. 1.50
Supplement to patent 565 798.

2936-2937
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY.
Process for preparing easily soluble derivatives of pyridine derivatives. Class 12 p, group 1. Ger. patent 570 860, dated Oct 16, 1931. Inventor: Reitmann. In German. 1.50

2938
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY.
Process for preparing 3-hydroxy-piperidine. Class 12 p, group 1. Ger. patent 571 227, dated Nov 4, 1931. Inventors: Nicodemus and Wulff. In German. 1.50
Supplement to patent 568 759.

2939-2942
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY.
Process for preparing acridine derivatives. Class 12 p, group 1. Ger. patent 571 449, dated Nov 2, 1930. Inventors: Mauss and Mietzsch. In German. 1.50

2943-2944
PB L 70317
ROJAHN, CARL AUGUST (Inventor).
Process for preparing easily soluble salts of phenylquinoline carboxylic acid. Class 12 p, group 1. Ger. patent 586 335, dated Nov 28, 1931. In German. 1.50
Supplement to patent 582 320.

2945-2946
PB L 70317
CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY.
Process for preparing pyridine derivatives containing basic groups. Class 12 p, group 1. Ger. patent 586 879, dated Jan 21, 1932. Inventor: Maier-Bode. In German. 1.50

2947-2948
PB L 70317
DEUTSCHE GOLD- UND SILBER SCHEIDEANSTALT VORM. ROESSLER, FRANKFURT AM MAIN, GERMANY.
Process for preparing condensation products of pyridine. Class 12 p, group 1. Ger. patent 588 041, dated Sep 1, 1931. Inventor: Schulenburg. In German. 1.50

2949-2950
PB L 70317
KALI-CHEMIE A. G., BERLIN.
Process for preparing thiocyanates of heterocyclic quaternary ammonium bases. Class 12 p, group 1. Ger. patent 589 331, dated Apr 13, 1932. Inventors: Jungmann and Rölke. In German. 1.50

2951-2955
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY.
Process for preparing quaternary derivatives of heterocyclic nitrogen compounds. Class 12 p, group 1. Ger. patent 590 239, dated Aug 19, 1931. Inventors: Schönhöfer and Henecka. In German. 1.50

2956-2958
PB L 70317
CHICHIBABIN, ALEXEI EVGENEVICH (Inventor). Process for preparing amino substitution products of the pyridine and quinoline series. Class 12 p, group 1. Ger. patent 374 291, dated Mar 24, 1914. In German. 1.50

2959-2960
PB L 70317
CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing 4-aminoquinolines arylated in 2-position and their derivatives. Class 12 p, group 1. Ger. patent 375 715, dated Feb 17, 1921. Inventors: Dohrn and Zöllner. In German. 1.50

2961-2962
PB L 70317
CASSELLA, LEOPOLD, & CO. G.M.B.H., FRANKFURT AM MAIN, GERMANY.
Process for preparing oil- and fat-soluble salts of acridine compounds. Class 12 p, group 1. Ger. patent 375 790, dated Jul 20, 1920. Inventor: Benda. In German. 1.50

2963-2964
PB L 70317
LÖWE, SIEGFRIED (Inventor). Process for preparing derivatives of quinoline. Class 12 p, group 1. Ger. patent 380 918, dated Jul 12, 1917. In German. 1.50

2965
PB L 70317
CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing 2-hydroxynitropyridines. Class 12 p, group 1. Ger. patent 360 420, dated May 29, 1920. Inventors: Dohrn and Horsters. In German. 1.50

2966-2967
PB L 70317
FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, HÖCHST, GERMANY. Process for preparing acridine derivatives. Class 12 p, group 1. Ger. patent 360 421, dated Jul 9, 1919. In German. 1.50

2968-2969
PB L 70317
CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing 2-aminopyridine. Class 12 p, group 1. Ger. patent 362 446, dated Mar 13, 1920. In German. 1.50

2970-2972
PB L 70317
TETRALIN G.M.B.H., BERLIN. Process for preparing polycyclic derivatives of 2-phenylquinoline-4-carboxylic acid and its derivatives substituted in the benzene nucleus of the quinoline radical. Class 12 p, group 1. Ger. patent 362 539, dated Oct 30, 1920. In German. 1.50

2973-2974
PB L 70317
FIRMA BEHRINGWERKE AKTIENGESELLSCHAFT, MARBURG, GERMANY. Process for preparing a bismuth complex compound of the quinoline series which dissolves easily in water. Class 12 p, group 1. Ger. patent 415 095, dated Aug 3, 1923. Inventors: Krollpfeiffer and Kohlhass. In German. 1.50

2975-2976
PB L 70317
BINZ, ARTHUR (Inventor). Process for preparing arsinic acids of the pyridine series which are substituted on the nitrogen. Class 12 p, group 1. Ger. patent

556 733, dated Sep 22, 1931. In German. 1.50

2977-2978 PB L 70317 — Identical with frames 2975-2976, above.

2979-2980 PB L 70317 — BIEL, ARTHUR and RÄTH, CURT (Inventors). Process for preparing pyridine arsinic acids. Class 12 p, group 1. Ger. patent 536 424, dated Mar 8, 1927. In German. 1.50

2981-2982 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing salts of aminoacridine compounds. Class 12 p, group 1. Ger. patent 557 250, dated May 5, 1931. Inventor: Benda. In German. 1.50

2983-2992 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing quinoline and acridine compounds which contain in the nucleus a benzothiazolyl, benzoxazolyl or benzimidazolyl group and a primary, secondary or tertiary amino group. Class 12 p, group 1. Ger. patent 533 691, dated Jun 11, 1929. Inventor: Jensch. In German. 1.50

2993-2994 PB L 70317 — KNOLL & CO. CHEMISCHE FABRIK, LUDWIGSHAFEN, GERMANY. Process for preparing derivatives of 2-methylquinoline (quinaldine). Class 12 p, group 1. Ger. patent 363 582, dated Jan 20, 1921. In German. 1.50

2995-2997 PB L 70317 — RIEDEL, J. D. & HAEN, H. DE, A. G., BERLIN-BRITZ. Process for preparing polycyclic bases. Class 12 p, group 1. Ger. patent 532 397, dated Apr 23, 1929. In German. 1.50

2998-2999 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing hydroxybenzoquinoline carboxylic acids. Class 12 p, group 1. Ger. patent 571 832, dated Mar 26, 1931. Inventors: Laska and Haller. In German. 1.50

3000-3002 PB L 70317 — BÖHRINGER, C. H., SOHN A. G., NIEDER INGELHEIM, GERMANY. Process for preparing Lobelia alkaloids. Class 12 p, group 1. Ger. patent 532 535, dated Jun 30, 1928. Inventors: Scheunig and Winterhalder. In German. 1.50

3003-3004 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing quinolinic acids. Class 12 p, group 1. Ger. patent 537 365, dated Aug 13, 1930. Inventors: Streitwolf and others. In German. 1.50

3005 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing a salt of 4-hydroxy-3-acetylaminobenzene-1-arsinic acid. Class 12 p, group 1. Ger. patent 550 640, dated May 27, 1930. Inventors: Beckenkohl and others. In German. 1.50

3006-3007 PB L 70317 — SCHERING-KAHLBAUM A. G., BERLIN. Process for hydrogenating bases of the pyridine and quinoline series. Class 12 p, group 1. Ger. patent 590 637, dated Nov 30, 1928. In German. 1.50

3008-3009 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing monoacyldiaminoacridines. Class 12 p, group 1. Ger. patent 550 934, dated Feb 10, 1931. Inventor: Schmidt. In German. 1.50
Supplement to patent 546 661.

3010-3011 PB L 70317 — CHEMISCHE FABRIK VON HEYDEN A.G., RADEBEUL, DRESDEN, GERMANY. Process for preparing quaternary compounds of methylchloride added to pyridine, quinoline, or isoquinoline compounds. Class 12 p, group 1. Ger. patent 593 670, dated Aug 3, 1932. Inventor: Haack. In German. 1.50

3012-3013 PB L 70317 — SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing diiodochelidamic acid. Class 12 p, group 1. Ger. patent 545266, dated Oct 8, 1930. Inventors: Dohrn and Diedrich. In German. 1.50

3014-3015 PB L 70317 — ADLER, OSCAR and ADLER, RUDOLF (Inventors). Process for preparing complex compounds of the salts of phenylquinoline carboxylic acids with 1-pheayl-2,3-dimethyl-4-dimethylamino-5-pyrazolone or 1-pheayl-2,3-dimethyl-5-pyrazolone. Class 12 p, group 1. Ger. patent 547 175, dated Jan 31, 1930. In German. 1.50
Supplement to patent 541 035.

3016-3017 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing 3,6-diaminoacridine derivatives alkylated on the aminonitrogen. Class 12 p, group 1. Ger. patent 545 914, dated Feb 13, 1929. Inventors: Schmidt and Hartmuth. In German. 1.50

3018-3019 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing antiknock motor fuels from lignite. Class 12 p, group 1. Ger. patent 554 366, dated Nov 27, 1926. In German. 1.50

3020-3022 PB L 70317 — CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY. Process for preparing 2-alkoxy-5-nitropyridines. Class 12 p, group 1. Ger. patent 568 549, dated Jan 12, 1932. Inventor: Haack. In German. 1.50

3023-3025 PB L 70317 — BÖHRINGER, C. H., SOHN A.G., NIEDER INGELHEIM, GERMANY. Process for preparing piperidine ketones and piperidine keto-alcohols. Class 12 p, group 1, Ger. patent 557 813, dated Jun 22, 1928. Inventors: Scheunig and Winterhalder. In German. 1.50
Supplement to patent 555 240.

3026-3027 PB L 70317 — TECHNICAL RESEARCH WORKS LIMITED, LONDON. Process for preparing piperidine and its homologues. Class 12 p, group 1. Ger. patent 558 566, dated Jun 7, 1928. In German. 1.50

3028 PB L 70317 — ROJAHN, CARL AUGUST (Inventor). Process for preparing easily soluble salts of phenylquinoline carboxylic acids. Class 12 p, group 1. Ger. patent 582 320, dated Nov 28, 1931. In German. 1.50

3029-3030 — SCHERING-KAHLBAUM A. G., BERLIN.

PB L 70317 Process for preparing derivatives of 5,5'-diamino-6,6'-dihydroxy-1,1'-arsenopyridine, which are easily soluble in water. Class 12 p, group 1. Ger. patent 546 144, dated Apr 13, 1929. Inventors: Binz and Räth. In German. 1.50

3031-3035 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing urea derivatives of the heterocyclic series, with a quaternary nitrogen atom in the ring. Class 12 p, group 1. Ger. patent 583 207, dated Aug 19, 1931. Inventors: Schönhöfer and Henecka. In German. 1.50

3036 PB L 70317 BINZ, ARTHUR and RÄTH, CURT (Inventors). Process for preparing arsenic compounds of the pyridine series. Class 12 p, group 1. Ger. patent 525090, dated Mar 8, 1927. In German. 1.50

3037 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing 2-nitroacridine. Class 12 p, group 1. Ger. patent 545 265, dated Dec 23, 1930. Inventor: Haller. In German. 1.50

3038-3039 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing complex compounds of salts of 3,6-diamino-10-alkylacridinium. Class 12 p, group 1. Ger. patent 526 086, dated Nov 27, 1929. Inventors: Schranz and Müller. In German. 1.50

3040 PB L 70317 CHINOSOL-FABRIK A. G., HAMBURG-BILLBROOK, GERMANY. Process for preparing 8-acetylhydroxyquinoline-7-carboxylic acid. Class 12 p, group 1. Ger. patent 540 842, dated Aug 6, 1930. In German. 1.50

3041-3042 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing 4)-aminoalkyl derivatives of quinoline. Class 12 p, group 1. Ger. patent 497 907, dated May 8, 1927. Inventor: Bartholomäus. In German. 1.50

3043-3046 PB L 70317 SCHRÖTER, GEORG (Inventor). Process for preparing 2,4-dihydroxypyridine-3-carboxylonitrile and its derivatives. Class 12 p, group 1. Ger. patent 515 991, dated Jan 18, 1927. In German. 1.50

3047-3048 PB L 70317 BÖHRINGER, C. F., & SÖHNE G.M.B.H., MANNHEIM-WALDHOF, GERMANY. Process for preparing pure phenylazo-2,6-diaminopyridine monohydrochloride. Class 12 p, group 1. Ger. patent 515 781, dated Nov 5, 1927. In German. 1.50

3049-3050 PB L 70317 SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing arsinic acids of the pyridine series. Class 12 p, group 1. Ger. patent 537 896, dated Jun 24, 1924. Inventors: Binz and Räth. In German. 1.50

3051-3052 PB L 70317 BÖHRINGER, C. H., SOHN, NIEDER INGELHEIM, GERMANY. Process for preparing quinoline-4-carboxylic acids that are substituted in 2-position with a cyclic radical. Class 12 p, group 1. Ger. patent 493 942, dated Sep 15, 1926. Inventor: Häusseler. In German. 1.50

3053-3054 PB L 70317 WOLFFENSTEIN, JOHANNA, GEB. DIEN, BERLIN-DAHLEM. Process for preparing basic esters of phenylquinoline carboxylic acids. Class 12 p, group 1. Ger. patent 520 155, dated Jul 8, 1926. Inventor: Häusseler. In German. 1.50

3055-3056 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing organic bases. Class 12 p, group 1. Ger. patent 495 337, dated Sep 3, 1927. Inventor: Nicodemus. In German. 1.50
Supplement to patent 479 351.

3057-3058 PB L 70317 SCOTTISH DYES LTD., GRANGEMOUTH, STIRLING, SCOTLAND. Process for preparing sulfuric anhydride compounds of the pyridine and quinoline series. Class 12 p, group 1. Ger. patent 535 147, dated Jan 17, 1929. In German. 1.50

3059-3060 PB L 70317 SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing aminopyridine compounds. Class 12 p, group 1. Ger. patent 510 432, dated Mar 8, 1927. Inventor: Räth. In German. 1.50

3061-3062 PB L 70317 CASSELLA, LEOPOLD, & CO. G.M.B.H., FRANKFURT AM MAIN, GERMANY. Process for preparing acridinium compounds. Class 12 p, group 1. Ger. patent 408 868, dated Feb 15, 1923. Inventors: Benda and Sievers. In German. 1.50

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3068-3073 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing N-substituted 2-alkoxy-6-halogen-9-aminoacridines. Class 12 p, group 1, Ger. patent 553 072, dated May 10, 1930. Inventors: Mietzsch and Mauss. In German. 1.50

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3077-3078 PB L 70317 GESELLSCHAFT FÜR TEERVERWERTUNG M.B.H., DUISBURG-MEIDERICH, GERMANY. Process for desulfurising pyridine bases obtained from coal tar. Class 12 p, group 1. Ger. patent 551 606, dated Oct 22, 1929. Inventors: Gruber and Schmitt. In German. 1.50

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3098-3099 PB L 70317 CHEMISCHE FABRIK AUF AKTIEN (VORM. E. SCHERING), BERLIN. Process for preparing acidyl derivatives of 2-aminopyridine and its derivatives. Class 12 p, group 1, Ger. patent 406 206, dated Dec 28, 1922. Inventors: Dohrn and Horsters. In German. 1.50

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3111-3112 PB L 70317 SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing di- and polyiodine substitution products of quinoline carboxylic acids. Class 12 p, group 1. Ger. patent 472 821, dated May 23, 1926. Inventors: Dohrn and Thiele. In German. 1.50

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PB L 70317
KEIL, FRIEDRICH and DOHKE, WERNER (Inventors). Process for preparing ketones of 2-(β-pyridyl)-pyrroles. Class 12 p, group 1. Ger. patent 748 459, dated Oct 9, 1940. In German. 1.50

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3145-3146
PB L 70317
CHICHIBABIN, A. E. (Inventor). Process for preparing derivatives (alkylated in the amino group) of aminopyridines, their homologues and substitution products. Class 12 p, group 1. Ger. patent 489 184, dated Jun 6, 1928. In German. 1.50

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I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing pyridine derivatives. Class 12 p, group 1. Ger. patent 702 829, dated Jan 28, 1939. Inventors: Westphal and Andersag. In German. 1.50

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3169-3170 PB L 70317 ULLMANN, FRITZ (Inventor). Process for preparing derivatives of naphthacridine. Class 12 p, group 1. Ger. patent 123 260, dated Jan 25, 1899. In German. 1.50
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3177-3178 PB L 70317 ZUCKMAYER, FRITZ (Inventor). Process for preparing substitution products of hydrogenated 2-phenylquinoline-4-carboxylic acid and its salts. Class 12 p, group 1. Ger. patent 344 501, dated Nov 8, 1916. In German. 1.50
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3191-3192 PB L 70317 WOLFFENSTEIN, RICHARD (Inventor). Process for preparing esters of 8-hydroxyquinoline. Class 12 p, group 1. Ger. patent 281 007, dated Jun 5, 1913. In German. 1.50

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Supplement to patent 486 079.

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3462-3463
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing benzothiazole derivatives. Class 12 p, group 1. Ger. patent 522 059, dated Sep 18, 1928. Inventor: Jensch. In German. 1.50

3464-3467
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing diaminoquinolines or their derivatives. Class 12 p, group 1. Ger. patent 591 480, dated Jan 27, 1932. Inventor: Jensch. In German. 1.50

3468-3469
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing organic compounds. Class 12 p, group 1. Ger. patent 514 174, dated Sep 16, 1925. Inventors: Nicodemus and Berndt. In German. 1.50
Supplement to patent 481 819.

3470-3471
PB L 70317
DEUTSCHE GOLD- UND SILBER-SCHEIDE-ANSTALT VORM. ROESSLER, FRANKFURT AM MAIN, GERMANY. Process for preparing iodine-substituted pyridine derivatives. Class 12 p, group 1. Ger. patent 513 293, dated Jan 25, 1925. Inventor: Kochendörfer. In German. 1.50

3472-3474
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing basic ethers of the acridine series. Class 12 p, group 1. Ger. patent 490 418, dated Jul 9, 1926. Inventor: Mietzsch. In German. 1.50

3475-3476
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing pyracridone. Class 12 p, group 1. Ger. patent 522 272, dated Sep 30, 1928. Inventor: Räth. In German. 1.50

3477-3478
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing monoacyl diaminoacridines or their salts. Class 12 p, group 1. Ger. patent 546 661, dated Oct 26, 1930. Inventor: Schmidt. In German. 1.50

3479-3480
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing organic bases. Class 12 p, group 1. Ger. patent 504 238, dated Dec 31, 1927. Inventor: Nicodemus. In German. 1.50
Supplement to patent 479 351.

3481-3482
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing acridine compounds. Class 12 p, group 1. Ger. patent 605 123, dated Mar 5, 1933. Inventor: Sievers. In German. 1.50

3483-3485
PB L 70317
CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY. Process for preparing sulfonic acids of N-substituted 2-pyridones. Class 12 p, group 1. Ger. patent 597 452, dated Feb 23, 1933. Inventor: Haack. In German. 1.50

3486-3487
PB L 70317
BAUMGARTEN, PAUL (Inventor). Process for preparing anhydro-N-pyridinium sulfonic acids. Class 12 p, group 1. Ger. patent 514 821, dated Mar 17, 1926. In German. 1.50

3488
PB L 70317
CHINOSOLFABRIK A. G., HAMBURG-BILLBROOK, GERMANY. Process for preparing intestinal disinfectants. Class 12 p, group 1. Ger. patent 513 127, dated Jan 31, 1928. In German. 1.50

3489-3490
PB L 70317
CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY. Process for preparing substituted 2-hydroxypyridines. Class 12 p, group 1. Ger. patent 597 974, dated Mar 10, 1933. Inventors: Haack and Rost. In German. 1.50
Supplement to patent 596 728.

3491-3492
PB L 70317
BADISCHE ANILIN- UND SODA-FABRIK, LUDWIGSHAFEN, GERMANY. Process for preparing quinoline parasulfonic acid. Class 12 p, group 1. Ger. patent 40 901, dated Mar 5, 1887. In German. 1.50

3493
PB L 70317
HEYDEN, F. VON (Inventor). Process for preparing hydroxyquinoline carboxylic acids. Class 12 p, group 1. Ger. patent 39 662, dated Aug 11, 1886. In German. 1.50

3494-3495
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing salts from acylaminoarsenic acids and acridinium compounds. Class 12 p, group 1. Ger. patent 606 498, dated May 24, 1932. Inventors: Benda and Sievers. In German. 1.50

3496-3497
PB L 70317
CHICHIBABIN, ALEXEI E. (Inventor). Process for preparing 3-ethyl-4-methylpyridine. Class 12 p, group 1. Ger. patent 463 530, dated Sep 15, 1926. In German. 1.50

3598-3599
PB L 70317
GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL, BASEL, SWITZERLAND. Process for preparing primary aminoalcohols of the quinoline series. Class 12 p, group 1. Ger. patent 462 137, dated Dec 16, 1920. In German. 1.50

3500-3505
PB L 70317
GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL, BASEL, SWITZERLAND. Process for preparing secondary and tertiary aminoalcohols of the quinoline series. Class 12 p, group 1. Ger. patent 462 136, dated Dec 16, 1920. In German. 1.50

3506-3507
PB L 70317
GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL, BASEL, SWITZERLAND. Process for preparing pyridine-2,3-dicarboxylic acid (quinolinic acid). Class 12 p, group 1. Ger. patent 455 386, dated Sep 9, 1924. In German. 1.50

3508-3509
PB L 70317
LIMPACH, LEONHARD (Inventor). Process for preparing 4-hydroxy-2-methylquinolines. Class 12 p, group 1. Ger. patent 455 387, dated Feb 17, 1926. In German. 1.50

3510
PB L 70317
RÄTH, CURTH (Inventor). Process for preparing 2-hydroxypyridine-5-carboxylic acid. Class 12 p, group 1. Ger. patent 447 303, dated Nov 12, 1924. In German. 1.50

3511-3512
PB L 70317
CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing chloroiodine compounds of the quinoline series. Class 12 p, group 1. Ger. patent 447 538, dated Jul 2, 1924. Inventors: Dohrn and Thiele. In German. 1.50

3513-3514
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing 7,8-benzoacridine-9-carboxylic acids and

their derivatives. Class 12 p, group 1. Ger. patent 446 543, dated Jul 5, 1925. Inventor: Fries. In German. 1.50

3515-3517 PB L 70317 — CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY. Process for preparing quaternary addition compounds of the pyridine, quinoline, and isoquinoline series. Class 12 p, group 1. Ger. patent 684 432, dated Aug 3, 1937. Inventor: Haack. In German. 1.50

3518-3520 PB L 70317 — WIRTH, ERNST (Inventor). Process for separating acridine or acridine derivatives (with free meso-position) from mixtures with other substances. Class 12 p, group 1. Ger. patent 440 771, dated Jan 18, 1925. In German. 1.50

3521-3522 PB L 70317 — WOLFFENSTEIN, RICHARD and SMITH, HAROLD A. (Inventors). Process for preparing nitrogenous derivatives of terpene alcohols. Class 12 p, group 1. Ger. patent 440 935, dated Jul 3, 1923. In German. 1.50

3523-3524 PB L 70317 — GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL, BASEL, SWITZERLAND. Process for preparing the anhydride of pyridine-2,3-dicarboxylic acid (quinolinic acid). Class 12 p, group 1. Ger. patent 442 221, dated Mar 22, 1925. In German. 1.50

3525-3526 PB L 70317 — GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL, BASEL, SWITZERLAND. Process for preparing saturated and unsaturated dialkylamides of pyridine-3-carboxylic acid. Class 12 p, group 1. Ger. patent 441 707, dated Dec 28, 1924. In German. 1.50

3527-3528 PB L 70317 — WIRTH, ERNST (Inventor). Process for preparing acridine cyanide. Class 12 p, group 1. Ger. patent 440 772, dated Jan 18, 1925. In German. 1.50

3529-3530 PB L 70317 — ARNDT, FRITZ and NACHTWEY, PAUL (Inventors). Process for recovering pure pyridine from mixtures of pyridine bases. Class 12 p, group 1. Ger. patent 451 956, dated Aug 9, 1925. In German. 1.50

3531-3532 PB L 70317 — CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY. Process for preparing addition compounds of nitrated diphenylethers. Class 12 p, group 1. Ger. patent 620 761, dated Mar 14, 1934. Inventor: Rost. In German. 1.50

3533-3534 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing complex heavy-metal compounds from arsenic compounds of the pyridine and quinoline series. Class 12 p, group 1. Ger. patent 671 563, dated Aug 1, 1935. Inventor: Binz. In German. 1.50

3535-3538 PB L 70317 — SCHERING A. G., BERLIN. Process for introducing organic radicals into the side-chains of pyridine or quinoline homologues. Class 12 p, group 1. Ger. patent 676 114, dated Jan 11, 1936. Inventor: Chichibabin. In German. 1.50

3539-3540 PB L 70317 — BAUMGARTEN, PAUL (Inventor). Process for preparing 3,5-diiodopyridine. Class 12 p, group 1. Ger. patent 676 583, dated Dec 29, 1937. In German. 1.50

3541-3542 PB L 70317 — ASTA A. G. CHEMISCHE FABRIK, BRACKWEDE, GERMANY. Process for preparing 1-(3',4',5'-trialkoxyphenyl)-6,7-dialkoxy isoquinolines. Class 12 p, group 1. Ger. patent 614 703, dated Aug 30, 1932. In German. 1.50

3543-3545 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing amino compounds of the quinoline series. Class 12 p, group 1. Ger. patent 615 184, dated Apr 25, 1934. Inventors: Zerweck and Kunze. In German. 1.50

3546-3548 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing 2-methyl-3-hydroxyquinoline-4-carboxylic acids. Class 12 p, group 1. Ger. patent 615 743, dated Jan 20, 1934. Inventors: Schlichtenmaier and Schörnig. In German. 1.50

3549-3550 PB L 70317 — SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing azo compounds of the pyridine or quinoline series. Class 12 p, group 1. Ger. patent 617 187, dated Apr 18, 1934. In German. 1.50
Supplement to patent 543 288.

3551-3552 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing pyridines beside nitriles, etc. Class 12 p, group 1. Ger. patent 743 469, dated Sep 6, 1941. Inventors: Franke and Thiele. In German. 1.50
Supplement to patent 740 638.

3553-3554 PB L 70317 — HOFFMANN, F. & LA ROCHE & CO. A. G. BASEL, SWITZERLAND. Process for preparing adermine. Class 12 p, group 1. Ger. patent 742 428, dated Oct 18, 1942. In German. 1.50
Supplement to patent 740 638.

3555-3556 PB L 70317 — FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, HÖCHST, GERMANY. Process for preparing quinoline derivatives by heating the salts of aromatic amino substances with mixtures of aldehydes and ketones. Class 12 p, group 1. Ger. patent 35133, dated Jul 14, 1885. In German. 1.50

3557-3559 PB L 70317 — JUST, FEODOR (Inventor). Process for preparing substituted quinoline derivatives from iminochlorides and malonic or acetoacetic esters. Class 12 p, group 1. Ger. patent 33 497, dated Feb 21, 1885. In German. 1.50

3560-3561 PB L 70317 — CHEMISCHE FABRIK R. BAUMHEIER KOMM.-GES., OSCHATZ-ZSCHOLLAU, GERMANY. Process for preparing surface-active substances from pyridine and its homologues. Class 12 p, group 1. Ger. patent 743 996, dated Jan 25, 1938. Inventor: Schiedewitz. In German. 1.50

3562-3566 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing isoquinoline compounds bearing a hydroaromatic or partially aromatic radical in 1-position, and derivatives thereof that are totally or partially hydrogenated in the pyridine ring. Class 12 p, group 1. Ger. patent 670 683, dated Dec 13, 1936. Inventors: Bockmühl and Herman. In German. 1.50

3567-3568 PB L 70317 — FRITZSCHE, FRANZ, & CO., HAMBURG, GERMANY. Process for preparing a

solid, water-soluble antiseptic and disinfectant. Class 12 p, group 1. Ger. patent 88 520, dated May 18, 1895. In German. 1.50

3569
PB L 70317
FARBWERKE VORM. MEISTER LUCIUS & BRUNING, HOCHST, GERMANY. Process for preparing aldehydes of the quinoline series. Class 12 p, group 1. Ger. patent 36 964, dated Dec 29, 1885. In German. 1.50

3570-3571
PB L 70317
FARBENFABRIKEN VORM. FR. BAYER & CO., ELBERFELD, GERMANY. Process for preparing dialkyloxylated diquinolyls and their hydrogenated derivatives. Class 12 p, group 1. Ger. patent 38 790, dated May 21, 1886. In German. 1.50

3572-3573
PB L 70317
DEUTSCHE HYDRIERWERKE A. G., RODLEBEN, POST DESSAU-ROSSLAU, GERMANY. Process for preparing surface-active betaine-like compounds. Class 12 p, group 1. Ger. patent 688 083, dated Jan 17, 1937. Inventor: Neu. In German. 1.50

3574-3576
PB L 70317
STAUDINGER, HERMANN (Inventor). Process for preparing derivatives of 4-hydroxypiperidine. Class 12 p, group 1. Ger. patent 436 442, dated Apr 11, 1924. In German. 1.50

3577-3578
PB L 70317
FIRMA CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing derivatives of 6-alkoxy-4-methylquinoline. Class 12 p, group 1. Ger. patent 436 516, dated Dec 25, 1924. Inventor: Zöllner. In German. 1.50

3579-3580
PB L 70317
LES ETABLISSEMENTS POULENC FRERES, PARIS. Process for preparing 3,6-diaminoacridine. Class 12 p, group 1. Ger. patent 347 819, dated Mar 12, 1920. In German. 1.50

3581-3582
PB L 70317
DRESS, KARL and KOWALSKI, GEORG (Inventors). Process for producing pyridine bases from tar oils. Class 12 p, group 1. Ger. patent 663 993, dated Oct 12, 1937. In German. 1.50

3583-3585
PB L 70317
IMPERIAL CHEMICAL INDUSTRIES LTD., LONDON. Process for preparing quaternary salts. Class 12 p, group 1. Ger. patent 662 538, dated May 13, 1937. Inventors: Baldwin and Piggott. In German. 1.50

3586-3589
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing quinoline derivatives. Class 12 p, group 1. Ger. patent 440 008, dated Mar 29, 1924. Inventors: Schwabe and others. In German. 1.50

3590-3591
PB L 70317
SCHERING A. G., BERLIN. Process for preparing amino derivatives of the pyridine series. Class 12 p, group 1. Ger. patent 663 891, dated Jan 11, 1936. In German. 1.50

3592-3593
PB L 70317
CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY. Process for preparing di(p-phenetyl)-(2-ethoxypyridyl-5)-guanidine. Class 12 p, group 1. Ger. patent 665 510, dated May 12, 1937. Inventor: Gebauer. In German. 1.50

3594-3597
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing piperidine compounds. Class 12 p, group 1. Ger. patent 679 281, dated Aug 8, 1937. Inventor: Risleb. In German. 1.50

3598-3602
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing aldehydes of the heterocyclic series. Class 12 p, group 1. Ger. patent 679 282, dated Dec 4, 1936. Inventor: Roh. In German. 1.50

3603-3605
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing 4-amino-2-hydroxyquinolines. Class 12 p, group 1. Ger. patent 681 980, dated Jan 22, 1938. Inventor: Arnim. In German. 1.50

3606
PB L 70317
MERCK, E., CHEMISCHE FABRIK, DARMSTADT, GERMANY. Process for preparing hexahydrogenated N-methyl-pyridine-3-carboxylic esters. Class 12 p, group 1. Ger. patent 463 578, dated May 12, 1926. Inventors: Diehl and others. In German. 1.50

3607-3608
PB L 70317
BEHRINGWERKE A. G., MARBURG, LAHN, GERMANY. Process for preparing vanadyl complex compounds of the quinoline series. Class 12 p, group 1. Ger. patent 468 300, dated Mar 11, 1925. Inventors: Krollpfeiffer and Schultze. In German. 1.50

3609-3610
PB L 70317
SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing pyridyl iodide chlorides. Class 12 p, group 1. Ger. patent 468 302, dated Nov 12, 1924. Inventor: Räth. In German. 1.50

3611
PB L 70317
CHICHIBABIN, ALEXEI E. (Inventor). Process for the catalytic preparation of a mixture of quinoline bases containing lepidine. Class 12 p, group 1. Ger. patent 468 303, dated Sep 15, 1926. In German. 1.50

3612
PB L 70317
RIEDEL, J. D. & HAEN, E. DE, A. G., BERLIN-BRITZ, GERMANY. Process for preparing a derivative of 2-phenylquinoline-4-carboxylic acid. Class 12 p, group 1. Ger. patent 468 809, dated Jul 3, 1926. In German. 1.50

3613-3614
PB L 70317
TROPONWERKE DINKLAGE & CO., KÖLN-MÜLHEIM, GERMANY. Process for preparing hydrogenated isoquinoline compounds that are aralkyl-substituted in the nitrogenous nucleus and contain free hydroxyl groups in an aromatic nucleus. Class 12 p, group 1. Ger. patent 728 326, dated Jan 23, 1938. Inventor: Kölz. In German. 1.50

3615
PB L 70317
DILTHEY, WALTER (Inventor). Process for preparing pentaphenylpyridine. Class 12 p, group 1. Ger. patent 646 185, dated Dec 29, 1933. In German. 1.50

3616-3617
PB L 70317
DORNOW, ALFRED (Inventor). Process for preparing 2,4,6-trimethyl-3-acetylpyridine. Class 12 p, group 1. Ger. patent 741 320, dated Nov 20, 1940. In German. 1.50

3618
PB L 70317
CHINOSOLFABRIK A. G., HAMBURG-BILLBROOK, GERMANY. Process for obtaining 5-chloro-8-hydroxyquinoline. Class 12 p, group 1. Ger. patent 543 789, dated Dec 24, 1930. In German. 1.50

3619-3624
PB L 70317
GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL, BASEL, SWITZERLAND. Process for preparing substituted quinoline carboxylamides. Class 12 p, group 1.

Ger. patent 537 104, dated May 4, 1926. In German. 1.50

3625-3628 PB L 70317 SCOTTISH DYES LTD., GRANGEMOUTH, STIRLING, SCOTLAND. Process for preparing sulfuric anhydride compounds of tertiary organic bases. Class 12 p, group 1. Ger. patent 525 814, dated Feb 24, 1928. In German. 1.50

3629-3630 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing pyridine or pyridine carboxylic acids. Class 12 p, group 1. Ger. patent 741 321, dated Feb 13, 1941. Inventors: Teichmann and Ballauf. In German. 1.50

3631-3632 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing β-hydroxy-2-methylpyridine. Class 12 p, group 1. Ger. patent 541 681, dated Nov 27, 1928. Inventor: Wulff. In German. 1.50

3633-3635 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing basic derivatives of nitro-9-aminoacridines. Class 12 p, group 1. Ger. patent 498 661, dated Jan 19, 1928. Inventors: Jensch and Nieleb. In German. 1.50
Supplement to patent 488 680.

3636-3638 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing hydroxy-o-carboxy benzoacridones. Class 12 p, group 1. Ger. patent 650 104, dated Mar 1, 1936. Inventors: Lange and Jacobs. In German. 1.50

3639-3642 PB L 70317 CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY. Process for preparing condensation products of quaternary pyridine compounds. Class 12 p, group 1. Ger. patent 594 084, dated Oct 29, 1932. Inventor: Haack. In German. 1.50

3643-3645 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing arylides of hydroxy-o-carboxy benzoacridines. Class 12 p, group 1. Ger. patent 650 663, dated Mar 5, 1936. Inventors: Lange and Jacobs. In German. 1.50

3646-3650 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing acridinium compounds. Class 12 p, group 1. Ger. patent 650 998, dated Apr 21, 1935. Inventors: Bockmühl and Sievers. In German. 1.50

3651 PB L 70317 DEUTSCHE HYDRIERWERKE A. G., RODLEBEN B. ROSSLAU, ANHALT, GERMANY. Process for purifying commercial pyridine bases. Class 12 p, group 1. Ger. patent 541 923, dated Jul 20, 1929. In German. 1.50

3652-3654 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing quinoline derivatives. Class 12 p, group 1. Ger. patent 540 699, dated Dec 7, 1929. Inventor: Nieleb. In German. 1.50

3655-3656 PB L 70317 KRABBE, WALTER (Inventor). Process for preparing 4-phenyl isoquinoline and its derivatives. Class 12 p, group 1. Ger. patent 652 041, dated Jun 11, 1936. In German. 1.50

3657-3659 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing heterocyclic nitrogen compounds which are substituted with the aldehyde group in p-position to the N-atom. Class 12 p, group 1. Ger. patent 645 880, dated Dec 11, 1935. Inventor: Roh. In German. 1.50

3660-3661 PB L 70317 SCHERING A. G., BERLIN. Process for preparing monoethers of 2,6-dihydroxypyridine-4-carboxylic acid and its esters. Class 12 p, group 1. Ger. patent 657451, dated Mar 24, 1936. In German. 1.50

3662-3664 PB L 70317 LEHMSTEDT, KURT (Inventor). Preparation of acridyl-9-carbamic esters. Class 12 p, group 1. Ger. patent 537 767, dated Nov 13, 1928. In German. 1.50

3665-3666 PB L 70317 SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing quinoline carboxylic acids that are substituted with several halogen atoms. Class 12 p, group 1. Ger. patent 495 714, dated Oct 28, 1926. Inventors: Dohrn and Thiele. In German. 1.50

3667-3669 PB L 70317 MANNICH, CARL (Inventor). Process for preparing 2,6-dimethyl-4-keto-piperidine-3,5-dicarboxylic esters. Class 12 p, group 1. Ger. patent 510 184, dated Jun 3, 1927. In German. 1.50

3670-3671 PB L 70317 SCHERING A. G., BERLIN. Process for preparing 2-phenylquinoline-4-carboxylic acids containing iodine and hydroxy groups. Class 12 p, group 1. Ger. patent 668 742, dated May 26, 1936. Inventors: Dohrn and Diedrich. In German. 1.50
Supplement to patent 659 496.

3672-3673 PB L 70317 GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL, BASEL, SWITZERLAND. Process for preparing substituted quinoline carboxylamides. Class 12 p, group 1. Ger. patent 540 698, dated May 4, 1926. In German. 1.50

3674 PB L 70317 RIEDEL, J. D. & HAEN, E. DE, A. G., BERLIN-BRITZ, GERMANY. Process for preparing 8-hydroxyquinoline. Class 12 p, group 1. Ger. patent 583 705, dated Apr 27, 1932. Inventor: Schulz. In German. 1.50

3675-3677 PB L 70317 GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL, BASEL, SWITZERLAND. Process for preparing monoacylated diamines. Class 12 p, group 1. Ger. patent 540 697, dated Aug 11, 1925. In German. 1.50

3678-3679 PB L 70317 SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing new heterocyclic compounds. Class 12 p, group 1. Ger. patent 543 288, dated Dec 12, 1928. Inventors: Dohrn and Diedrich. In German. 1.50

3680 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing 6-alkoxy-8-aminoquinolines. Class 12 p, group 1. Ger. patent 492250, dated Jan 27, 1927. Inventors: Schulemann and others. In German. 1.50

3681 PB L 70317 FIRMA BEHRINGWERKE AKTIENGESELLSCHAFT, MARBURG, GERMANY. Process for preparing bismuth complex compounds of the quinoline series which are easily soluble in water. Class 12 p, group 1. Ger. patent 416 328, dated Jan 22, 1924. Inventors: Krollpfeiffer and Kohlhaas. In German. 1.50
Supplement to patent 415 095.

3682 PB L 70317 — PAAL, CARL (Inventor). Process for preparing a heavy-metal salt (with colloidal solubility) of 2-phenylquinoline-4-carboxylic acid. Class 12 p, group 1. Ger. patent 410 365, dated Mar 30, 1921. In German. 1.50

3683 PB L 70317 — KNOLL & CO. CHEMISCHE FABRIK, LUDWIGSHAFEN, GERMANY. Process for preparing derivatives of 2-methylquinoline (quinaldine). Class 12 p, group 1. Ger. patent 363 583, dated Jan 20, 1921. In German. 1.50
Supplement to patent 363 582.

3684 PB L 70317 — FIRMA E. MERCK CHEMISCHE FABRIK, DARMSTADT, GERMANY. Process for preparing pyridine-2,3-dicarboxylic acid (quinolic acid). Class 12 p, group 1. Ger. patent 414 072, dated Jul 20, 1923. Inventor: Diehl. In German. 1.50

3685-3686 PB L 70317 — FIRMA FARBWERKE VORM. MEISTER LUCIUS & BRUNING, HOCHST, GERMANY. Process for preparing a water-soluble, complex bismuth compound of 7-iodo-8-hydroxyquinoline-5-sulfonic acid. Class 12 p, group 1. Ger. patent 416 329, dated Dec 18, 1923. In German. 1.50

3687 PB L 70317 — RIEDEL, J. D., AKTIENGESELLSCHAFT, BERLIN-BRITZ, GERMANY. Process for preparing derivatives of 2-phenyl-quinoline-4-carboxylic acid. Class 12 p, group 1. Ger. patent 411 051, dated Feb 18, 1923. In German. 1.50

3688-3690 PB L 70317 — GESELLSCHAFT FUR CHEMISCHE INDUSTRIE, BASEL, BASEL, SWITZERLAND. Process for preparing basic esters of substituted quinoline-4-carboxylic acids. Class 12 p, group 1. Ger. patent 531 363, dated Jul 19, 1927. In German. 1.50

3691-3692 PB L 70317 — THIELEPAPE, ERNST (Inventor). Process for preparing alkyl esters of 2-quinoline-4-carboxylic acid. Class 12 p, group 1. Ger. patent 416 769, dated Nov 3, 1921. In German. 1.50

3693-3694 PB L 70317 — FIRMA CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing ketones of the pyridine series. Class 12 p, group 1. Ger. patent 418 218, dated Nov 23, 1923. In German. 1.50

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3697 PB L 70317 — SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing 3- or 5-iodo substitution products of pyridine. Class 12 p, group 1. Ger. patent 511 451, dated May 29, 1925. Inventor: Räth. In German. 1.50
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3714-3715 PB L 70317 — BOEHRINGER, C. H., SOHN A. G., NIEDER INGELHEIM, GERMANY. Process for preparing piperidine alkines. Class 12 p, group 1. Ger. patent 543 876, dated Apr 25, 1928. Inventors: Scheunig and Winterhalder. In German. 1.50

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3718-3719 PB L 70317 — HOFFMANN, F. & LA ROCHE & CO. A. G., BASEL, SWITZERLAND. Process for preparing halogenated pyridine derivatives. Class 12 p, group 1. Ger. patent 650 049, dated Apr 26, 1936. In German. 1.50

3720-3721 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing a pyridine derivative. Class 12 p, group 1. Ger. patent 707 428, dated Apr 14, 1939. Inventors: Kuhn and Wendt. In German. 1.50

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G.M.B.H., DORTMUND-EVING, GERMANY. Process for obtaining pyridine bases from gas water. Class 12 p, group 1. Ger. patent 727 557, dated Mar 29, 1939. Inventors: Dohse and Klempt. In German. 1.50

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| L 60002 Frames 3256-3257 | Process for precipitating cellulose derivatives from their solutions. Ger. patent application J.72175 IVc/12 o, dated May 6, 1942. In German. | 1.50 |
| L 60003 Frames 3258-3262 | Paint color. Ger. patent application I.57374 IVc/22 g, dated May 13, 1942. In German. | 1.50 |
| L 60004 Frames 3263-3264a | Absorption of hydrogen chloride. Ger. patent application J.72285 IVb/12 i, dated May 18, 1942. In German. | 1.50 |
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| L 60006 Frames 3267-3274 | Process for coloring or printing on glass fibres or such. Ger. patent application J.72229 IVc/8 m, dated May 13, 1942. In German. | 1.50 |
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L 60122 Frames 3723-3725 **Filling material for roots of teeth.** Ger. patent application J.73 604 IVa/30 h, dated Nov 14, 1942. In German. 1.50

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L 60224 Frames 4133 — Lead coatings. Ger. patent application J.74867 VIa/48a dated Apr 24, 1943. In German. 1.50

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L 60226 Frames 4136-4137 — Process for recovering the copper from ammoniacal copper- or copper salt complex solution, particularly from the waste liquor of the ammoniacal copper-oxide cellulose industry, by means of resin exchangers. Ger. patent J.74923 IVc/29b dated Apr 30, 1943. In German. 1.50

L 60227 Frames 4138-4143 — Process for producing polyamino compounds. Ger. patent application J.74924 IVa/12g dated Apr 30, 1942. In German. 1.50

L 60228 Frames 4144-4146A — Process for preparing vanadium concentrates from raw materials containing vanadium. Ger. patent application J.68352 VI/40a dated Dec 4, 1940. In German. 1.50

L 60229 Frames 4147-4151 — Pesticides. Ger. patent application J.73424 IVa/45 1 dated Oct 27, 1942. In German. 1.50

L 60230 Frames 4152-4155 — Pesticides. Ger. patent application J.73432 IVa/45 1 dated Oct 29, 1942. In German. 1.50

L 60231 Frames 4156-4160 — Process for producing (thio) phosphoric acid-tridialkylamides or monohalogen-(thio)phosphoric acid-di-dialkylamides. Ger. patent application J.73934 IVc/12q dated Dec 30, 1942. In German. 1.50

L 60232 Frames 4161-4164 — Process for producing arsenic, silicon, and boron polyamide compounds. Ger. patent application J.73860 IVc/12q dated Dec 19, 1942. In German. 1.50

L 60233 Frames 4165-4166 — Process for rendering combustible material water-repellent and flameproof. Ger. patent application J.73759 IVd/8k dated Dec 7, 1942. In German. 1.50

L 60234 Frames 4167-4171 — Process and device for continuous silica removal from aluminate solutions. Ger. patent application J.74149 IVb/12g dated Jan 23, 1943. In German. 1.50

L 60235 Frames 4172-4174 — Process for preparing vanadium concentrates from raw material containing vanadium. Ger. patent application J.73992 VIa/40a dated Jan 7, 1943. In German. 1.50

L 60236 Frames 4175-4180 — Process for manufacturing condensation products. Ger. patent application J.74944 IVc/39c dated May 3, 1943. In German. 1.50

L 60237 Frames 4181-4184 — Process for manufacturing synthetic rubberlike products. Ger. patent application J.74945 IXc/39c dated May 4, 1943. In German. 1.50

L 60238 Frames 4185-4187 — Process for separating phenols from oils. Ger. patent application J.74998 IVc/12o dated May 12, 1943. In German. 1.50

L 60239 Frames 4188-4190 — Process for fixing the spinning funnel to the spinning head. Ger. patent application J.75072 VII/29a dated May 19, 1943. In German. 1.50

L 60240 Frames 4191-4192 — Process for recovering phenols from their aqueous solutions. Ger. patent application J.75073 IVc/12q dated May 20, 1943. In German. 1.50

L 60241 Frames 4193-4195 — Process for manufacturing condensation products. Ger. patent application J.75188 IVc/39c dated May 26, 1943. In German. 1.50

L 60242 Frames 4196-4197 — Process for improving the light fastness of direct color on cellulose fibers. Ger. patent application J.75139 IVd/8m dated May 26, 1943. In German. 1.50

L 60243 Frames 4198-4200 — Process for improving the odor of carbonization products, etc. Ger. patent application J.75189 IVd/12r dated May 29, 1943. In German. 1.50

L 60244 Frames 4201-4202 — Process for producing nitriles. Ger. patent application J.72946 IVc/12o dated Aug 12, 1942. In German. 1.50

L 60245 Frames 4203-4204 — Process for producing nitriles. Ger. patent application J.73428 IVc/12o dated Oct 23, 1942. In German. 1.50

L 60246 Frames 4205-4206 — Process for destroying insects. Ger. patent application J.75229 IVa/45 1 dated Jun 9, 1943. In German. 1.50

L 60247 Frames 4207-4212 — Process for fractional distillation or rectification. Ger. patent application J.75201 IVa/12a dated Jun 2, 1943. In German. 1.50

L 60248 Frames 4213-4223 — Process for producing quarternary compounds of the polycyclic series. Ger. patent application J.75202 IVb/12q dated Jun 2, 1943. In German. 1.50

L 60249 Frames 4224-4226 — Luminous paints and process for production. Ger. patent application J.75245 IVb/22f dated Jun 11, 1943. In German. 1.50

L 60250 Frames 4227-4230 — Process for decomposition of oils containing phenols. Ger. patent application J.75237 IVc/12q dated Jun 9, 1943. In German. 1.50

L 60251 Frames 4231-4234 — Process for finishing textile materials. Ger. patent application J.75324 IVd/8k dated Jun 16, 1943. In German. 1.50

L 60252 Frame 4235 — Pigments. Ger. patent application J.75303 IVb/22f dated Jun 19, 1943. In German. 1.50

L 60253 Frame 4236 — Process for producing 1,1-diaryl-2,2-dichloroethanes. Ger. patent application J.75301 IVd/12o dated Jun 18, 1943. In German. 1.50

L 60254 Frames 4237-4238 — Process for producing p-substituted benzene sulfothioureas. Ger. patent application J.75256 IVc/12a dated Jun 15, 1943. In German. 1.50

L 60255 Frames 4239-4241 — Plastic molding material, especially for dental purposes. Ger. patent application J.75335 IXa/30b dated Jun 25, 1943. In German. 1.50

L 60256 Frames 4242-4243 — Process for obtaining utilizable products from coal carbonization tar. Ger. patent application J.75302 IVd/12o dated Jun 18, 1943. In German. 1.50

L 60257 Frames 4244-4245 — Process for working up residues containing copper. Ger. patent application J.75317 IVa/40a dated Jun 22, 1943. In German. 1.50

L 60258 Frames 4246-4248 — Reduction process. Ger. patent application J.75345 IVc/12o dated Jun 22, 1943. In German. 1.50

L 60259 Frames 4249-4250 — Process for producing opaque enamels. Ger. patent application J.75334 VIb/48c dated Jun 25, 1943. In German. 1.50

L 60260 Frames 4251-4256 — Stabilizing agent for synthetic rubber-like masses. Ger. patent application J.75535 IVc/39b dated Jul 21, 1943. In German. 1.50

L 60261 Frames 4257-4259 — Process for separation of phenol oils into mono and polyvalent phenols. Ger. patent application J.75449 IVc/12q dated Jul 7, 1943. In German. 1.50

L 60262 Frames 4260-4262 — Process for carrying out chemical reactions. Ger. patent application J.75478 IVb/12q dated Jul 12, 1943. In German. 1.50

L 60264 Frames 4263-4268 — Process for producing microporous rubber masses permeable to gas and water. Ger. patent application J.75595 IVc/39b dated Jul 24, 1943. In German. 1.50

L 60265 Frames 4269-4271 — Process for producing chloroacetaldehyde. Ger. patent application J.75534 IVd/12o dated Jul 19, 1943. In German. 1.50

L 60266 Frames 4272-4276 — Method and device for testing the serviceability of textiles, weaves, and other substantially flat material. Ger. patent application J.75562 IXb/42k dated Jul 23, 1943. In German. 1.50

L 60267 Frames 4277-4278 — Process for producing o,o'-dioxybenzil. Ger. patent application J.75596 IVd/12o dated Jul 26, 1943. In German. 1.50

L 60268 Frames 4279-4280 — Process for producing hexene-(2)-olid-(5,1). Ger. patent application J.75605 IVc/12q dated Jul 26, 1943. In German. 1.50

L 60269 Frames 4281-4285 — Energy transmitter. Ger. patent application J.70760 IVd/23c dated Oct 31, 1941. In German. 1.50

L 60270 Frames 4286-4289 — Process for manufacturing condensation products. Ger. patent application J.74109 IVc/12o dated Jan 20, 1943. In German. 1.50

L 60271 Frames 4290-4292 — Process for printing on textile fibers. Ger. patent application J.75657 IVd/8a dated Aug 9, 1943. In German. 1.50

L 60272 Frames 4293-4298 — Slide rule for shapers. Ger. patent application J.75708 IXb/42m dated Aug 18, 1943. In German. 1.50

L 60273 Frames 4299-4301 — Bubble columns. Ger. patent application J.75635 IVa/12a dated Aug 2, 1943. In German. 1.50

L 60274 Frames 4302-4304 — Stabilizing agent for synthetic rubberlike masses. Ger. patent application J.75634 IVc/39b dated Aug 2, 1943. In German. 1.50

L 60275 Frames 4305-4306 — "De-basting" of natural silk. Ger. patent application J.75717 IVc/29b dated Aug 20, 1943. In German. 1.50

L 60276 Frames 4307-4309 — Production of plywood shapes. Ger. patent application J.75746 XII/38h dated Aug 21, 1943. In German. 1.50

L 60277 Frames 4310-4311 — Agent for mothproofing furs, etc. Ger. patent application J.75744 IVd/8k dated Aug 25, 1943. In German. 1.50

L 60278 Frames 4312-4316 — Flange packing. Ger. patent application J.75760 XII/47f dated Aug 28, 1943. In German. 1.50

L 60279 Frame 4317 — Exchange column with plates. Ger. patent application J.75787 IVa/12a dated Aug 28, 1943. In German. 1.50

L 60280 Frame 4318 — Chromium plating. Ger. patent application J.73480 VIa/18d dated Nov 3, 1942. In German. 1.50

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## PHOTOGRAPHIC AND OPTICAL GOODS (INCLUDING PHOTOGRAPHIC PROCESSING)

PB L 73198. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Correspondence and patent applications for optical instruments. (FIAT Microfilm Reel N 11, Frames 7761-7934) 1922, 1928. 174 f. Price: Microfilm-$2.50 - Enlargement print-$17.50

This FIAT microfilm reel consists of two patent applications and correspondence with the German Patent Office, etc., for optical instruments listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $2.50. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 7761-7878 PB L 73198 | STÜTZER, R. (Inventor). Direction finder. Ger. patent application St 40 095 IX/42e dated Nov 27, 1922. In German. Supplement to patent 398 603. Drawings. Continued from Reel N 10, PB 73197. | 12.00 |
| 7879-7934 PB L 73198 | BEREK, M. (Inventor). Rapid objective. Ger. patent application L 73 792 /42h dated Dec 25, 1928. In German. Graphs and drawings. | 6.00 |

PB L 73167. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Miscellaneous patents; patent and design patent applications. (FIAT Microfilm Reel I-47, Frames 5735-6364) 1934-1943. 630 f. Price: Microfilm-$6.00 - Enlargement print-$63.00

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| Frames | Title | Price |
|---|---|---|
| 5735-5739 PB L 73167 | HORNUNG, J. (Inventor). Arrangement for testing apparatus, etc. Ger. design patent application L 37 807 gm 42b dated Feb 7, 1943. In German. Supplement to patent application L 111 987. Drawings included. | $1.50 |
| 5740-5745 PB L 73167 | ROSENTHAL, G. (Inventor). Relay for current regulation. Ger. design patent application L 37 649 gm 21 g dated May 27, 1943. In German. Supplement to patent application L 111 641 VIII/21c. Drawing included. | 1.50 |
| 5746-5751 PB L 73167 | SCHÄFER, K. and others (Inventors). Sighting device. Ger. design patent application L 37 578 gm 72f dated May 27, 1943. In German. Supplement to patent application L 111 599 XI/72f. Drawing included. | 1.50 |
| 5752-5758 PB L 73167 | BAUER, H. and others (Inventors). Eyepiece protection cap for telescopes. Ger. design patent application L 37 576 gm 42h dated May 27, 1943. In German. Drawing included. | 1.50 |
| 5759-5763 PB L 73167 | BECKER, H. (Inventor). Arrangement for leveling the adjustable horizontal beam in machines for tooling metals and similar materials. Ger. design patent application L 37 413 gm 49b dated Apr 22, 1943. In German. Supplement to patent application L 111 284 Ib/49b. Drawing included. | 1.50 |
| 5764-5771 PB L 73167 | BROSCHKE, H. (Inventor). Guide for the penetration body of a hardness tester. Ger. design patent application L 37 414 gm 42k dated Apr 22, 1943. In German. Supplement to patent application L 111 280 IXb/42k. Drawings included. | 1.50 |
| 5772-5777 PB L 73167 | KOCH, A. (Inventor). Adjustment device for prisms. Ger. design patent application L 37 279 gm 42h dated Apr 2, 1943. In German. Supplement to patent application L 110 084 IXa/42h. Drawing included. | 1.50 |
| 5778-5784 PB L 73167 | LEITZ, L. (Inventor). Sighting device. Ger. design patent application L 37 233 gm 42h dated Apr 2, 1943. In German. Supplement to patent application L 111 072 IXa/42h. Drawings included. | 1.50 |
| 5785-5791 PB L 73167 | LEITZ, E. and others (Inventors). Telescope built into a vehicle. Ger. design patent application L 37 157 gm 42h dated Mar 4, 1943. In German. Supplement to patent application L 110 948 IXa/42h. Drawings included. | 1.50 |
| 5792-5798 PB L 73167 | BROSCHKE, H. (Inventor). Hardness tester based on the penetration principle. Ger. design patent application L 37 190 gm 42k dated Mar 24, 1943. In German. Supplement to patent application L 110 969 IXb/42k. Drawings included. | 1.50 |

5799-5808 PB L 73167 LEITZ, L. and others (Inventors). Telescopic gun sight. Ger. design patent application L 37 407 gm 72f dated Apr 24, 1943. In German. 1.50
Supplement to patent application L 111 282 IIa/72f. Drawings included.

5809-5814 PB L 73167 MULCH, K. (Inventor). Illumination arrangement for direct light projection. Ger. design patent application not given and not dated. In German. 1.50
Supplement to patent application L 110 898 IIa/42h. Drawing included.

5815-5822 PB 73167 STÜTZER, R. (Inventor). Optical sighting arrangement for the direct aiming purposes. Ger. design patent application L 37 020 gm 72f dated Mar 2, 1943. In German. 1.50
Supplement to patent application L 110 725 IX/72f. Drawings included.

5823-5826 PB L 73167 HORNUNG, J. (Inventor). Closed ball guide for mechanical precision instruments. Ger. design patent application L 37 648 gm 42d, n.d. In German. 1.50
Supplement to patent application L 111 623 IXb/42d. Drawing included.

5827-5832 PB L 73167 ZIMMERMANN, O. (Inventor). Telescope with variable enlargement. Ger. design patent application not given and not dated. In German. 1.50
Supplement to patent application L 110 754 IIa/42h. Drawing included.

5833-5840 PB L 73167 MEINHARDT and others (Inventors). Optical measuring arrangement. Ger. design patent application L 37 019 gm 42c dated Mar 2, 1943. In German. 1.50
Supplement to patent application L 110 724 IXb/42c. Drawings included.

5841-5847 PB L 73167 LEITZ, E. (Inventor). Method for finding the exact limits of a polished body. Ger. design patent application L 36 839 gm 42b dated Feb 8, 1943. In German. 1.50
Supplement to patent application L 110 485 IIa/42b. Drawing included.

5848-5855 PB L 73167 SCHÄFER, W. (Inventor). Infinitely variable friction gear. Ger. design patent application L 39 799 gm 47h dated Feb 2, 1943. In German. 1.50
Supplement to patent application L 110 438 XII/47h. Drawings included.

5856-5862 PB L 73167 SEIBERT, A. (Inventor). Supplementary optical system for microscopes. Ger. design patent application L 36 800 gm 42h dated Feb 4, 1943. In German. 1.50
Supplement to patent application L 110 423. Drawing included.

5863-5872 PB L 73167 RIEDE and others (Inventors). Telescope. Ger. design patent application L 36 505 gm 42h dated Dec 28, 1942. In German. 1.50
Supplement to patent application L 110 044 IIa/42h. Drawings included.

5873-5881 PB L 73167 STEIN, W. and others (Inventors). Electric exposure meter for cameras. Ger. design patent application L 36 504 gm 57a dated Dec 28, 1942. In German. 1.50
Supplement to patent application L 110 043 IIa/57a. Drawings included.

5882-5886 PB L 73167 LEITZ, E. and others (Inventors). Asymmetrical range finder. Ger. design patent application L 36 561 gm 42c dated Jan 11, 1943. In German. 1.50
Supplement to patent application L 110 160 IXb/42c. Drawing included.

5887-5897 PB L 73167 STÜTZER, R. (Inventor). Tripod, especially for geodetic instruments. Ger. design patent application L 36 364 gm 42c dated Dec 10, 1943. In German. 1.50
Supplement to patent application L 109 852 IXb/42c. Drawings included.

5897-5904 PB L 73167 SEIBERT, A. (Inventor). Optical system with other glass bodies, preferably prisms, between its image forming elements. Ger. design patent application L 36 258 gm 42h dated Nov 27, 1942. In German. 1.50
Supplement to patent application L 109 729 IIa/42h. Drawings included.

5905-5912 PB L 73167 LEITZ, E. (Inventor). Arrangement for location of a fast moving body in space. Ger. design patent application L 36 218 gm 42h dated Nov 26, 1942. In German. 1.50
Supplement to patent application L 109 691 XI/72f. Drawing included.

5913-5918 PB L 73167 RIEPERT and others (Inventors). Optical arrangement for surface examination. Ger. design patent application L 36 139 gm 42b dated Nov 16, 1942. In German. 1.50
Supplement to patent application L 109 609 IXb/42b. Drawings included.

5919-5926 PB L 73167 MEINHARDT (Inventor). Adjustment device for machine tools. Ger. design patent application L 36 678 gm 49d dated Nov 4, 1942. In German. 1.50
Supplement to patent application L 109 466 Ib/49d. Drawings included.

5927-5933 PB L 73167 BROSCHKE, H. (Inventor). Microhardness tester based on the penetration principle. Ger. design patent application L 35 971 gm 42k dated Oct 21, 1942. In German. 1.50
Supplement to patent application L 109 327 IXb/42k. Drawings included.

5934-5939 PB L 73167 LEITZ, E. and others (Inventors). Clamping arrangement for tools, especially for cutting heads. Ger. design patent application L 35 970 gm 49b dated Oct 21, 1942. In German. 1.50
Supplement to patent application L 109 326 Ib/49b. Drawings included.

5940-5950 PB L 73167 JAECKEL and others (Inventors). Arrangement for optical recording of results obtained from testing and measuring devices. Ger. design patent application L 35 778 gm

57a dated Sep 26, 1942. In German. 1.50
Supplement to patent application L 109 106 IXa/57a. Drawings included.

5951-5956 PB L 73167 STÜTZER, R. (Inventor). Detachable connection for mechanical precision instruments, especially for sighting devices. Ger. design patent application L 35 777 gm 42h dated Sep 26, 1942. In German. 1.50
Supplement to patent application L 109 105 IXa/42h.

5957-5964 PB L 73167 KALENSEE, W. (Inventor). Arrangement for precise mutual displacement and fixation of two movable parts. Ger. design patent application L 35 779 gm 42d dated Sep 12, 1942. In German. 1.50
Supplement to patent application L 109 324 IXb/42d. Drawings included.

5965-5978 PB L 73167 Arrangement for coating optically effective planes, especially glass surfaces. Ger. design patent application and date not given. In German. 1.50
Supplement to patent application W 107 325 VI/32b. Drawings included.

5979-5987 PB L 73167 SEIBERT, A. (Inventor). Supplementary system for compensation of the chromatic enlargement difference of image forming systems of a microscope. Ger. design patent application L 35 432 gm 42h dated Aug 1, 1942. In German. 1.50
Supplement to patent application L 108 618 IXa/42h. Drawing included.

5988-5994 PB L 73167 LEITZ, L. (Inventor). Arrangement for the prevention of fogging of transparent surfaces, especially glass surfaces in observation telescopes. Ger. design patent application L 35 354 gm 42h dated Jul 21, 1942. In German. 1.50
Supplement to patent application L 108 498/42h. Drawing included.

5995-6000 PB L 73167 STÜTZER, R. (Inventor). Reading arrangement for goniometric devices. Ger. design patent application L 34 067 gm 42c dated Jan 14, 1942. In German. 1.50
Supplement to patent application L 106 831 IXb/42c. Drawings included.

6001-6006 PB L 73167 STEIN, W. (Inventor). Camera with an exposure meter. Ger. design patent application L 33 147 gm 57a dated Oct 22, 1941. In German. 1.50
Supplement to patent application L 105 678 IXa/57a.

6007-6012 PB L 73167 MAY, E. (Inventor). Illumination arrangement for arc-lamp projectors. Ger. design patent application L 32 992 gm 42h dated Sep 27, 1941. In German. 1.50
Supplement to patent application L 105 493 IXa/42h.

6013-6017 PB L 73167 MAY, E. (Inventor). Adjustable feeding device for projection arc lamps. Ger. design patent application L 32 450 gm 21f dated Jul 12, 1941. In German. 1.50
Supplement to patent application L 104 855 VIII/21f.

6018-6025 PB L 73167 BROSCHKE, H. (Inventor). Camera with an electric exposure meter. Ger. design patent application L 32 269 gm 57a dated Jun 19, 1941. In German. 1.50
Supplement to patent application L 104 643 IXa/57a.

6026-6030 PB L 73167 MAY, E. and others (Inventors). Carbon feeding device for projection arc lamps. Ger. design patent application L 31 732 gm 21f dated Apr 12, 1941. In German. 1.50
Supplement to patent application L 103 914 VIIIc/21f.

6031-6032 PB L 73167 BEREK and others (Inventors). Photographic objective. Ger. design patent application L 29 072 gm 42h dated May 6, 1940. In German. 1.50
Supplement to patent application L 100 751 IXa/42h.

6033-6050 PB L 73167 LEITZ, L. and others (Inventors). Camera with a built-in exposure meter. Ger. design patent application L 28 032 gm 57a dated Dec 4, 1939. In German. 2.00
Supplement to patent application L 99 589 IXa/57a. Drawings included.

6051-6056 PB L 73167 BECKER, H. (Inventor). Measuring table. Ger. design patent application L 27 433 gm 42c dated Aug 28, 1939. In German. 1.50
Supplement to patent application L 98 902 IXb/42c. Drawing included.

6057-6058 PB L 73167 ZIMMERMANN, O. (Inventor). Lid for photographic objectives. Ger. design patent application dated Jul 11, 1939. In German. 1.5[illegible]
Supplement to patent application L 98 487 IXa/57a. Incomplete.

6059-6202 PB L 73167 Rapid photographic objectives (Summars). Ger. design patent application L 91 070 IXa/42h dated Sep 2, 1936. In German. 14.50
Including various draft revisions and correspondence with the German Patent Office covering the time from 1936 to 1944. Drawings included.

6203-6299 PB L 73167 Method for production of coatings on optically effective surfaces, especially glass surfaces. Ger. design patent application W 106 562 VIb/32b dated Nov 17, 1939. In German. 10.00
Including various draft revisions and correspondence with the German Patent Office up to 1944.

6300-6361 PB L 73167 DISTELI, A. (Inventor). Method for the examination of watch movements and similar retardation controlled instruments. Ger. patent 634 923, Sep 5, 1936. Ger. patent application D 70 175 IX/42c dated May 25, 1934. In German. 6.50
Drawings. Includes correspondence with the German Patent Office. Some frames may not reproduce well.

6362-6364 PB L 73167 Camera with an attachable exposure meter. Ger. Patent 634 016, Aug 14, 1936. Application L 89 088 IX/57a dated Oct 31, 1935. In German. 1.50

REGISTER OF PATENTS AVAILABLE FOR LICENSING OR SALE

Information on the following patents can be obtained from the U. S. Patent Office, Washington 25, D. C.

The "Groups" appearing after the patent abstracts are based on the Standard Industrial Classification Manual, Vol. I, Manufacturing Industries, Executive Office of the President, Bureau of the Budget.

Official Gazette, December 23, 1947.

PAT. 2,415,210. Centrifuge for separating molten metals from slag. Patented Feb 4, 1947.
Apparatus for refining metals by centrifugal action, whereby metal is separated from the slag. A revolving conical-shaped hopper is supported vertically, apex downward, into which molten ore is introduced through inlet at bottom by pipe from a blast furnace. As hopper revolves, molten metal is forced by centrifugal action through apertures in the wall into an annular receiving chamber. The lighter slag rises higher through center of molten material and passes out through upper apertures. (Owner) Eugene Hoefling, Route 1, Box 287, Salem, Oreg. Group 35-59. Reg. No. 8,937.

PAT. 2,425,199. Egg cooker. Patented Aug 5, 1947.
A waterless automatic electric egg cooker. It consists of a box-like structure with time control dial and automatic cut-off. A shell-shaped receptacle for a single egg (surrounded by suitable heat-resisting material) is in center of box, the lower half supported in base, the upper half aligned on inside of hinged cover. Heating elements are positioned around the egg. The hinged cover is swung open automatically by a coiled spring on expiration of pre-determined time of cooking. Modifications show a number of cookers hooked up in multiple, each having its own dial control. (Owner) Haimi Mayon, 944 Newkirk Ave., Brooklyn 30, N. Y. Group 36-21. Reg. No. 8,938.

PAT. 2,273,742. Lapel for reversible coats and the like. Patented Feb 17, 1942.
A method of cutting the outside and inside layers of coat material to project well beyond the front of the coat so that by an extra folding a lapel is formed which is bent forward or backward to show either the outside or inside material as the coat is reversed. The lapel is buttoned to either side as desired. Modifications consist of coverings to slip over the lapel. (Owner) Charles Weinberg, 830 West 177th St., New York 33, N. Y. Group 23-11-31-62. Reg. No. 8,939.

PAT. 2,396,148. Lifesaving and sporting raft. Patented Mar 5, 1946.
A foldable raft for use as a lifesaving or sporting float. Two rectangular wood frames comprising a head section and a foot section are pivotally hinged together, with semi-cylindrical floats of cork or any suitable material attached to under sides. As raft is unfolded and sections bolted in end-aligned operative position, two spring-controlled flag-mounted poles extend vertically of the frame. An inclined head rest, a blanket fastened across opening of head section, and a safety belt enable a person to lie face upward on the raft. Paddles are attached at sides. Modifications are shown. (Owner) Harry J. Bean, 1753 Bedford St., Los Angeles 35, Calif. Groups 25-92; 37-32; 39-49. Reg. No. 8,940.

PAT. 2,015,284. Game. Patented Sept 24, 1935.
A game board for playing baseball using same rules as in actual baseball. Board comprises a number of stops and cut-outs arranged at various angles to and distances from batter's box each having reward and penalty values. The ball is directed by pitcher through a chute arranged to give it "spin" toward the manually controlled bat, which is pivotally mounted on batter's box and strikes the ball, propelling it toward one of the stops. A "stolenbase" cut-out opening at one side of "home" receives ball if it has excessive spin. (Owner) Francis L. Phelan, 231 Allston St., Cambridge, Mass. Group 39-41. Reg. No. 8,941.

PAT. 1,787,745. Dancing figure. Patented Jan 6, 1931.
An automatic dancing figure attachment for a phonograph. A casing with a vibration board is attached to phonograph adjacent the turntable. An upright rod is attached to casing from which the dancing figure is suspended, its feet touching vibration board. A cover with edge projection is placed on the turntable. The projections engage a spring-controlled lever, causing figure to dance. (Owner) Michael J. Hand, Sacred Heart Church, Met Hospital, Welfare Island, New York, N. Y. Groups 36-61; 39-41; 40. Reg. No. 8,942.

PAT. 2,427,146. Pasteurizer. Patented Sept 9, 1947.
A pasteurizer for handling large or small gallonage. An inner receptacle for milk and an outer insulated receptacle for water are in sealed engagement near the top to provide a closed water chamber around the sides and below inner shell. Inner receptacle is provided with a plunger, a discharge pipe with faucet, and a centrally hinged cover. A plurality of electric heating elements (of the immersion type) thermostatically control the temperature of the water, which in turn heats the milk. When water attains pre-determined temperature, moderately above the holding point of pasturization, milk poured into inner receptacle is heated so that at end of a 30-minute holding period (during which time power is shut off) the fluids balance at required temperature. (Owner) William T. Lee, 241 St. John's Road, Toronto 9, Ontario, Canada. Groups 35-51; 36-21. Reg. No. 8,943.

PAT. 2,318,149. Ash receiver. Patented May 4, 1943.
An ash tray is constructed to serve a triple purpose. Inside an outer flute-edged tray is fastened a bowl-shaped inner ash tray so that a wedge-shaped recess is formed between the trays. This recess is designed for snuffing out a lighted cigarette left burning on the tray when the cigar or cigarette falls down into the recess. May be made of a wide variety of materials and by many manufacturing processes. (Owner) Sidney Ferman, 1915 Longfellow Ave., Bronx, New York, N. Y. Groups 32-29-69; 40. Reg. No. 8,944.

PAT. 2,369,415. Method of repairing cracked cylinder heads and blocks. Patented Feb 13, 1945.
This method is designed to repair cracked cylinder heads or blocks without dismantling the engine and to conceal all signs of damage. The cylinder head is subjected to heat, and a wedge-shaped tool driven into crack, spreading the walls to V-form. A straight-edged tool is driven in crack, cutting away portions of walls and forcing cuttings into bottom of crack. A filler bar of malleable metal having a straight and a curved edge is placed above the cuttings and subjected to pressure to fill the crack. Portions of metal at upper edges of crack, which became raised when crack was widened, are forced over the filler bar, tying the bar within the crack. (Owner) Edgar B. Sherman, 115 Oak St., Darlington, S. C. Group 35-41-59-69. Reg. No. 8,945.

PAT. 2,413,454. Vending machine.
Patented Dec 31, 1946.
Coin-operated machine dispenses ice cream bars. Bars are stacked in refrigerated compartment over a platform having spaced guide rails and a U-shaped strap fastened horizontally to sides of a wheeled plunger and sized to accommodate one bar. When inserted coin unlocks mechanism, inclined top surface of plunger separates lowest bar, raising stack to jar apart frozen bars and dropping lowest bar upon guide rails within confines of strap. As bar is pushed forward onto a chute, a spring returns plunger to position. (Owner) Ival E. Kidwell, 6053 Ethel Ave., Van Nuys, Calif. Group 35-73. Reg. No. 8,946.

PAT. 2,428,116. Combination ash tray, flower and candle holder. Patented Sept. 30, 1947.
A combination ash tray and flower and candle holder in which ashes are out of sight and protected from being blown about. An open-top container has a removable cover provided with slots to allow ashes to fall into container; a center circular opening with downward concealed flanges supports a candle; and an open space surrounding the candle serves either to receive cigarette stubs or flowers. A tubular insert below cover, containing horizontally extending wires and flanged openings aligned with those of cover, furnishes support of candle and flower stems and disposal of ashes to bottom of container. May be made of any rust-resisting material. (Owner) Jens Jensen, 167 Liberty Road, Englewood, N. J. Groups 32-29; 33-73; 40. Reg. No. 8,947.

PAT. 2,427,628. Selective dispenser for phonograph records. Patented Sept 16, 1947.
A coin-controlled vending machine for phonograph records comprises a cylindrical reservoir divided transversely into compartments with a slot at front of each compartment through which records pass into a receiving pan. A pusher plate, released by coin-controlled mechanism, enters slot in rear of compartment and pushes out the record. Labels in front indicate records in compartment, and a signal shows when supply is exhausted. Records are inserted through hinged openings at rear. (Owner) Hyman P. Silverman, 216 Denham Bldg., Denver 2, Colo. Group 35-73. Reg. No. 8,948.

PAT. 2,201,801. Baking oven. Patented May 21, 1940.
An oven in which bread, cakes, etc., may be baked at differently selective temperatures. A number of independently controlled baking compartments with conventional oven doors are disposed one above another over a heating chamber, with heat-conducting areas between. Suspended shutter means fitting in grooves across the top of each compartment are manually operated to regulate flow of heat into compartment. A manually operated damping device regulates the escape of heat into a chimney in center of roof. (Owner) George Stavron, 748 St. Marks Ave., Brooklyn, N. Y. Groups 35-51; 36-21. Reg. No. 8,949.

PAT. 2,342,535. Vehicle driven pontoon.
Patented Feb 22, 1944.
A single pontoon equipped with adjustable propulsion and steering mechanism is propelled (for ferry service) by power transmitted from the rear wheels of a motor vehicle after it has been driven onto the pontoon. The front wheels of the vehicle are turned to operate the pontoon steering mechanism. Each rear wheel depresses an endless belt (or chain) between a pair of pulleys so that the wheel rests on the belt and pulleys. Rotation of the wheels frictionally drives the belts. Vertically hinged doors may surround the top of pontoon and either end-door may function as a gangplank by lowering it to contact shore or an adjacent pontoon. When used to build a continuous pontoon bridge, all doors may be folded inwardly to provide a durable road surface for heavy artillery, tanks, etc. A modification shows a water ski having four pontoons. (Owner) John Froya, 32-50 84th St., Jackson Heights, Long Island, N. Y. Group 37-81. Reg. No. 8,950.

PAT. 2,358,601. Jack or elevator device for vehicles.
Patented Sept 19, 1944.
Power operated jack or elevator apparatus of the wheeled transportable type for motor vehicles is operated by power transmitted thereto from the rear wheels of a vehicle after it has been driven onto the apparatus. Each rear wheel of vehicle depresses an endless belt (or chain) between a pair of pulleys so that the wheel rests on the belt and pulleys. Forward rotation of wheels raises the apparatus and reverse rotation lowers it. Idler rollers are provided for supporting the front wheels to permit them to rotate freely when vehicle is of the type having four-wheel drive. Apparatus is adjustable to accommodate various types of motor vehicles. (Owner) John Froya, 32-50 84th St., Jackson Heights, Long Island, N. Y. Groups 33-52; 35-62, 69. Reg. No. 8,951.

PAT. 2,228,610. Display apparatus. Patented Jan 14, 1941.
This is a display apparatus for show windows, in which a central curtain serves as a background for articles displayed. A continuous track-way is provided around the central curtain. A belt, supported by track-way, has a carrier attached thereto which supports articles displayed and keeps them moving in a continuous path around the curtain, appearing and disappearing between the background and end curtains. Thus, wearing apparel, exhibited upon dummies, is shown in natural relationship of moving toward and away from observer. (Owner) Mrs. Gladys J. Reid, R. F. D. 3, West Alexandria, Ohio. Groups 35-62; 39-93. Reg. No. 8,952.

PAT. 2,358,599. Pan lifter. Patented Sept 19, 1944.
A detachable handle for lifting and handling hot plates, pans, etc. It consists of a long handle with a metal strip at one end curved to follow the shape of outer wall of pan, with knobs on inner side to bear against the pan. A tongue projecting from center of strip curves upward and slightly backward to engage bead of the pan. (Co-owners) Howard W. Schultz, Frank W. Schultz, Bertha Schultz. Address correspondence to Howard W. Schultz, 10718 So. Arlington Ave., Los Angeles, Calif. Groups 33-73; 40. Reg. No. 8,953.

PAT. 2,048,295. Corn saving device. Patented July 21, 1936.
An attachment fastened to any conventional corn binder is designed to push aside from path of the drive wheel loose ears of corn fallen to the ground from the binder. It comprises an obtuse-angular frame so pivoted to frame of corn binder as to drag along the ground, apex forward, in front of drive wheel and deflect loose ears from path of the wheel. (Owner) Albert Rode, 1629 E. Fourth St., Dayton, Ohio. Group 35-22. Reg. No. 8,954.

PAT. 2,420,965. Closing flap for envelopes and the like.
Patented May 20, 1947.
An envelope or equivalent mailing article has both sealing flap and co-acting "stick down surface" of body provided with corrugated spaces gummed alternately to avoid inadvertent self-sealing in tropical climates. Gummed spaces on flap strike nongummed spaces on body when flap is closed. (Owner) Edward J. Milo, 4550 Foster Ave., Chicago 30, Ill. Group 26-41, 92. Reg. No. 8,955.

PAT. 2,427,838. Bottle carrier. Patented Sept 23, 1947.
A light-weight metal bottle carrier for soft drinks, from which bottles hang suspended. Center portion is a rectangular plate with center carrying handle and apertures along sides in which necks of capped bottles are held. On each side of rectangle is an upward-bent flange in which fan-shaped apertures correspond to those in main trough, forming continuous slots. A bottle is tilted and neck inserted in a flange aperture; it bridges the bend and, as bottle becomes vertical, neck is held in the smaller aperture. (Owner) Roy T. Cox, Marion, Ind. Groups 33-73; 40. Reg. No. 8,956.

DES. PAT. 147,363. Tobacco smoking pipe. Patented Aug 26, 1947.
Design for a tobacco smoking pipe. (Owner) Frank J. Danilowicz, c/o Daniels Lifetime Products, 775 East 152nd St., Cleveland 10, Ohio. Group 36-96. Reg. No. 8,957.

PAT. 2,422,901. Rotary pump. Patented June 24, 1947.
Power transmission mechanism, comprising a rotary pump of the centrifugal type, is provided with an axial fluid inlet conduit at its center adapted to direct an inflowing fluid medium (Preferably oil) radially outwardly and directly behind the expelling edges of a plurality of blades of the pump. When the blades are revolved by a driving member, they act on the fluid in such manner as to force it axially from the pump through a passage surrounding the fluid inlet. The patent shows the pump connected to reversible fluid motors of the expansible chamber type by suitable apparatus including valve control mechanism for controlling operation of the motors. This combined arrangement is adapted to be used in place of the usual transmission gearing and differential of motor vehicles although not limited thereto. (Owner) George D. Hunter, Box 761, Rocky Mount, N. C. Groups 35-61-66; 38-31. Reg. No. 8,958.

PAT. 2,425,604. Handle for cook pots. Patented Aug 12, 1947.
A removable lifter for cooking pots. A rod is disposed over top of cooking pot, curved at one end with metal finger to engage farther handle of the pot. A spring-operated lever fastened near the grip end of rod is manipulated by operator's fingers to fasten hinged socket members around nearer handle of pot and prevent its tilting. Device is designed to adjust to different sized pots and, once attached, to hold the pot firmly until released, even when contents are being poured out. (Owner) Herman Eckhoff. Address correspondence to Munn, Liddy & Glascum, 24 West 40th St., New York 18, N. Y. Groups 34-41-99; 40. Reg. No. 8,959.

PAT. 2,427,251. Training sandal. Patented Sept 9, 1947.
An auxiliary sandal for athletes to be worn under soles of regular shoes to strengthen and develop muscles during training. Comprises a metal base with a heel standard and a T-shaped adjustment, with a toe standard clamped to underside of base. A cushion weight, shaped like a shoe sole is fastened between base and cleats of regular shoes. Cleats are provided on underside of sandal. Instep and ankle straps hold sandal in place. (Owner) Lawrence L. Bray, 829 Michigan Ave., Sheboygan, Wis. Group 39-49. Reg. No. 8,960.

Patent Removed from Register

REG. NO. 8,561. Patent 2,200,963. Treatment of egg whites.

Official Gazette, December 30, 1947.

PAT. 2,134,594. Device for displaying a license plate. Patented Oct 25, 1945.
A casing for enclosing a motor vehicle license plate so that the plate is clearly exposed to view and illuminated, when desired, by bulbs within the casing. A window opening in front of casing is closed by a transparent panel. The back wall is hinged to bottom to permit insertion of license plate against back wall. Bolts are passed through registering openings in the plate and wall to secure casing to a supporting bracket carried by a motor vehicle. Casing may be padlocked. (Owner) Speros P. Andelenis, 28 Columbus Ave., New York 23, N. Y. Group 38-31. Reg. No. 8,961.

PAT. 2,427,698. Insulating and ventilating structure. Patented Sept 23, 1947.
Wall structure for providing thermal or acoustic insulation for room or compartment, particularly heated cabins of aircraft. It comprises separate outer wall (skin of airplane) and inner wall (chamber) between which is a passage for escape of exhaust ventilation air to a suitable exhaust duct. The inner wall of this duct may be of material having acoustic absorption properties and permeable to air. Circulation through inner wall is produced by maintaining a pressure drop between interior of chamber and the exhaust duct, thus tending to maintain the inner wall at a temperature above the dew point of the air, thereby preventing condensation. A part of the heat content of the exhaust ventilation air is transferred to the cabin wall itself instead of being lost with the exhaust air. (Owner) Solar Aircraft Company, San Diego 12, Calif. Groups 32-73; 37-21. Reg. No. 8,962.

PAT. 2,425,830. Adjustable-electrode arc-welding torch. Patented Aug 19, 1947.
A double-electrode arc-welding torch of the type used in atomic hydrogen welding. It comprises a handle with two electrode-supporting rod members to support a pair of electrodes. A stream of hydrogen is directed through the arc between the electrodes and onto the work to be heated. The device is easily manipulated, light in weight, and may be operated for long periods of time without tiring the operator. (Owner) Solar Aircraft Company, San Diego 12, Calif. Groups 35-42; 36-19. Reg. No. 8,963.

PAT. 2,428,310. Drafting instrument. Patented Sept 30, 1947.
A drafting instrument for measuring angles and plotting curves, particularly railway and highway curves. It consists of a transparent protractor-like body of 90° segmental form and a tab having an axis-forming aperture. The face is provided with two 90° radius lines, a 45° radius line, arcuate lines of different radii, and tangent lines. An anchor block in bushing of tab forms a bearing about which the bushing and body are rotated on a piece of work. Anchor pin on bottom of block is forced into the work at selected center point. (Owner) R. A. Hendry, P. O. Box 106, Baddeck, Nova Scotia, Canada. Group 39-11. Reg. No. 8,964.

PAT. 2,427,060. Combined knob, scale, and pointer structure. Patented Sept 9, 1947.
A knob for manipulating the control shafts of radios, having a transparent outer end with a pointer visible therein. A stationary dial on inside of knob functions with the pointer. May be applied to any conventional radio control shaft. (Owner) Olaf Gorden, 5140 Ballard Ave., Seattle, Wash. Groups 25-11; 36-61. Reg. No. 8,965.

PAT. 2,212,766. Game apparatus. Patented Aug 27, 1940.
This patent shows a disc-shaped body for providing exercise when tossed at a target painted on the floor of a playing alley. Target may be a circle divided into playing areas. One side of disc is beveled around marginal edge and the other side has a circular recess to enable disc to be grasped and thrown. (Owner) Speros P. Andelenis, 28 Columbus Ave., New York 23, N. Y. Group 39-41. Reg. No. 8,966.

DES. PAT. 141,368. Design for a massaging device or similar article. Patented May 29, 1945.
(Owner) Sophie Burgheimer, 3318 Lake Shore Drive, Apt. 310, Chicago, Ill.
Group 39-22-91. Reg. No. 8,967.

PAT. 2,427,482. Attachment for baby carriages and the like. Patented Sept 16, 1947.
One or two attachments to rear axle of baby carriage to prevent jar in moving carriage from one level to another. Roller is mounted on a bracket pivotally secured to a spring-controlled rocker member, the entire assembly being attached to rear axle by a set screw. Roller is free of ground on the level but touches curb and supports carriage as wheels are lowered or pulled up. Modification shows a pair of rollers mounted in a yoke. (Owner) David Weissman, 1116 Pine St., Philadelphia 7, Pa.
Group 39-43.
Reg. No. 8,968.

PAT. 2,410,147. Apparatus for grading fruits, vegetables, and other products according to size. Patented Oct 29, 1946.
The product is fed, by motor driven machinery, to a grading belt formed of links and connecting rods providing openings of various sizes. Each opening is controlled by a freely pivoted suspended gate. Each gate is so actuated that the product will be ejected through the opening and pass to a discharge chute, or, if too large for the opening, will be pushed up and sent on to the next larger opening. (Owner) Gustave H. Bleeke. Address correspondence to Edmund W. E. Kamm, 3932 Indiana Ave., Fort Wayne, Ind. Group 35-81.
Reg. No. 8,969.

DES. PAT. 135,390. Transparent sewing machine presser foot. Patented Mar 30, 1943.
This transparent plastic presser foot for sewing machines is somewhat wider than similar devices and affords a broad space for holding down material around the needle point. The device has a hole through which the needle reciprocates. Its front and rear edges slope upward so that material is given good entrance toward the needle point and is gradually released. Being transparent, the presser foot enables the work to be observed before and after it is engaged by the needle. (Owner) Mrs. Viola Lains, 12532 17th Ave., N. E., Seattle 55, Wash. Groups 35-83; 39-81; 40.
Reg. No. 8,970.

PAT. 2,397,374. Differential gearing. Patented Mar 26, 1946.
Automobile differential of standard type is provided with hydraulic brake mechanism of simple built-in character between rear wheel axle and the rotary differential gear box. It functions automatically to act as equalizing means, when either wheel loses traction, to preserve most of the power normally transmitted to the other wheel with better traction. This lessens the possibility of an automobile becoming stalled when one wheel rests on a slippery surface and the other rests on a dry surface, or when one wheel rests on a more slippery surface than the other. Each brake functions independently of the other. The brakes do not interfere with operation of the automobile under normal driving conditions. (Owner) Theodor F. Schlicksupp, 52 Vanderbilt Ave., New York 17, N. Y. Groups 35-66; 38-31.
Reg. No. 8,971.

PAT. 2,247,290. Package opener. Patented June 24, 1941.
This package opener utilizes a conventional single-edge razor blade as a cutter for removing a panel of a package without injuring contents. The opener, integrally formed from sheet metal, comprises a pair of parallel rectangular plates having their lower edges bent angularly outwardly to form a pair of diverging

guide legs, and a top tubular roll portion joining top edges of the plates and serving as a spring hinge to spread plates for inserting razor blade. Blade is angularly held between the parallel flat portions of plates with cutting edge disposed between the guide legs, the backing strip fitting into slots and bolted in at desired angle. In use, the guide legs straddle edge of package to guide and shield blade as opener is drawn along to cut out the panel. (Owner) H. Grinnell Disbrow, 10 Woodside Road, Madison, N. J. Group 33-51. Reg. No. 8,972.

PAT. 2,428,655. Crosscut saw set.
Patented Oct 7, 1947.
A hand operated saw set for swaging and adjusting the rake of the teeth of crosscut saws, without damage to the cutting edge. It consists of a pair of pivoted jaws, with a handle extending from each jaw, and a rounded concave anvil portion on one jaw, a hammer on the other. The anvil is a V-shaped cavity into which the tooth of a saw is disposed between the anvil and the hammer for swaging. The closing movement of handles and jaws is regulated by an adjusting screw threaded into the handle. (Owner) Zeb F. Davis, Route 1, Box 379, Candler, N. C. Groups 33-54; 35-52. Reg. No. 8,973.

PAT. 2,106,251. Window structure.
Patented Jan 25, 1938.
Construction designed to prevent frosting of windows in cold weather, particularly of motor vehicles. Between the window and an inner pane, the edges of which are fused together, an evacuated space tends to maintain the colder temperature of the outer window and the warmer temperature of the inner, preventing condensation of the moisture of the air in the passenger compartment into frost on the window. A layer of celluloid adhering to the evacuated-space surface of both the outer and inner panes is designed to maintain shatter-resistance of the glass. Modifications are shown. (Owner) Frank G. Ludwig, North State St., Lockport, Ill. Group 38-31. Reg. No. 8,974.

PAT. 2,423,079. Air-duct electric heater.
Patented Sept 30, 1947.
An inexpensive electric heating and air-conditioning plant. Two or more rows of conically shaped heating elements project downward from the top wall of a duct and upward from the bottom wall in staggered relation forming baffles for an air current. A pipe carries heated air from duct into a hot air chamber, and thence to various rooms. Cooled and foul air is drawn from the rooms through switch-controlled grilles in lower part of partition walls. This air passes through an air outlet pipe to an electric fan, which blows it through a connecting pipe into the duct containing the heating elements. (Owner) Sim M. Hooper, 512 North Lee Highway, Cleveland, Tenn. Groups 35-84; 36-21. Reg. No. 8,975.

PAT. 2,412,464. Cigarette and safety match holder.
Patented Dec 10, 1945.
A holder for a package of cigarettes and safety matches is adjustable to clamp on the steering or gear-shift column of any automobile. It consists of an inverted U-shaped body of metal, plastic, cardboard, or stiff leather with opening at top for insertion of a package of cigarettes, and a device on each side to support a package of safety matches. (Owner) Michael Meyer. Address correspondence to William Isler, 416 Leader Bldg., Cleveland 14, Ohio. Groups 26-91; 31-13; 33-73; 39-81; 40. Reg. No. 8,976.

PAT. 2,424,407. Spreader tool. Patented July 22, 1947.
A simple device, removably attached to a straight edge of a flat trowel or putty knife, is used for uniformly spreading and smoothing plastic materials such as linoleum or asphalt tile paste, or cement. A narrow strip of transversely corrugated metal is screwed to straight marginal edge of tool. As the strip, held at an angle to layer of paste or cement, is manipulated by tool, the corrugations produce grooves into which displaced material flows from the high spots, thus producing a smooth surface. (Owner) Michael Meyer. Address correspondence to William Isler, 416 Leader Bldg., Cleveland 14, Ohio. Groups 33-52; 40. Reg. No. 8,977.

PAT. 2,428,864. Magnet. Patented Oct 14, 1947.
A magnet for recovering small metal objects dropped in small or poorly lighted recesses. A tubular metal casing, sized to fasten by a clip into a pocket, serves as carrier and handle for the magnet. A bar magnet is so mounted by a spiral spring to a block, which slides and latches within the casing, that it may follow curvatures when thrust into a space of irregular shape. It may be lowered by a string into a deep cavity. (Owner) Charles H. Boyd, 2764 Second Blvd., Detroit 1, Mich. Groups 25-42-43; 33-12-91; 36-12-91. Reg. No. 8,978.

PAT. 2,425,621. Vibrator. Patented Aug 12, 1947.
An electric vibrator comprising two interacting electromagnets, one fixedly mounted and one resiliently mounted. One electromagnet is supplied with direct current and the other with alternating current. (Owner) Francis E. Knipper. Address correspondence to Munn, Liddy & Glacoum, 24 West 40th St., New York 18, N. Y. Groups 36-21; 39-91. Reg. No. 8,979.

PAT. 2,082,834. Toilet set. Patented June 8, 1937.
A case for tooth brush and tube of tooth paste, in which the brush and tube are suspended in a tiltable inner holder frame. The threaded neck of tube projects upwardly through a hole in the top plate of the frame and is held in place by a perforated screw cap. Brush handle projects through slot in plate, and bristle end rests on bottom of ventilated holder. Paste may be squeezed out without removing tube from frame. When not in use, tube is sealed tightly by a cork disc positioned in inner end of casing cover. Casing may be made of any suitable material and in any suitable shape. Modifications show similar cases for other toilet articles. (Owner) Frank J. Hofmann, 853 Jackson Ave., New York 56, N. Y. Groups 39-81; 40. Reg. No. 8,980.



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*Indicates that reports in the BIOS, CIOS and FIAT series are deposited in the Library of Congress Depository Libraries. For a complete list of these libraries, see page facing page 1, volume 5, of this Bibliography.

In addition to the indexes described on the back cover of this Bibliography, the Office of Technical Services has published the following reference works:

PB L 58101-R. SWIFT, GRACE. Government document series, analyzed by Office of Technical Services. Rev. Nov 1947. 45 p. Price: 25¢

PB L 78000. LOWRY, W. KENNETH. OSRD reports: Bibliography and index of declassified reports having OSRD numbers. Jun 1947. 105 p. Price: 75¢

PB L 79322. SWIFT, GRACE and ORNE, JERROLD. Subject headings for technical libraries. Jun 1947. 167 p. Price: $1.50

PB L 81803. U. S. OFFICE OF TECHNICAL SERVICES, TECHNICAL INDUSTRIAL INTELLIGENCE DIVISION. Reports resulting from the investigation of German technology, 1945-1946, and index of personnel. May 1947. 207 p. Price: $5.25

Erratum:

v. 4, p. 605. PB L 40013 is incorrectly entered as PB 50013. A correct entry has been made in v. 5, p. 1116.

## CHEMICALS AND ALLIED PRODUCTS

### Drugs and Pharmaceuticals

PB L 81827. BLUMENTHAL, L. M. Production of suprifen at Farbwerke, Hoechst, Germany. (JICA Rept 41) Aug 1947. 3 p. Price: Mimeo-25¢
Suprifen (p-hydroxy ephedrine) is a circulatory tonic and cardiac stimulant of considerable interest. The method for its commercial production is given.

PB L 81387. KERN, J. G. and others. Manufacture of antipyrine and pyramidon at I. G. Farbenindustrie A. G., Hoechst. (FIAT Final Rept 1023) Jun 1947. 67 p. Price: Mimeo-$1.75
Antipyrine and pyramidon have been manufactured in large volume at I. G. Farbenindustrie A. G., Höchst. The prior intermediates, phenylhydrazine and phenylmethylpyrazolon, were also manufactured at Höchst in neighboring buildings. Processes are presented for end products and intermediates. The plants are described briefly, and capacity analyses are given in some detail for antipyrine and pyramidon.

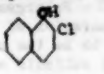
PB L 81281. WIGGINS, ALPHA M. Preparation of Rochelle salt crystals. (FIAT Final Rept 1146) May 1947. 7 p. Price: Mimeo-25¢
Details of the processes used for growing Rochelle salt crystals from the solution are described in this report. The methods of cutting the crystals and the tools used for cutting are described, along with the methods of applying electrodes and the material used in the electrodes.

### Dyes

PB L 74778. I. G. FARBENINDUSTRIE A. G. Card index on dyes. (FIAT Microfilm Reel M 124, Frames 8659-9999, 1-880) 1927-1943. 1111 f. Price: Microfilm-$8.00 - Enlargement print-$111.50
This FIAT microfilm reel contains index cards on organic dyes in alphabetical order. Data on production, composition, structural formulas, trade names, as well as patent numbers and other references are included. In German.

PB L 28000. JULIUS and others. Thioderivatives of the Quinones and hydroquinones. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7290-7379 of FIAT Microfilm Reel 5 A) Apr 1905. 46 f. Price: Microfilm-$1.25 - Enlargement print-$5.50.
This report investigates a patent application regarding the preparation of sulfur dyes from quinone and hydroquinone derivatives. The essential subjects of examination are : the effect of sulfurizing agents on quinones, specification and description of the individual primary products of sulfurization ; experiments for the preparation of 2.6 - dichloro hydroquinone monothiosulfonic acid from 2.6 - dichloro hydroquinone with thiosulfate and chromic acid ; products resulting from the action of thiocyanic acid on quinones ; effect of trithiocarbonic acid on quinones ; conversion products derived from primary sulfurized hydroquinones ; primary products resulting from the action of dilute hydrochloric acid on hydroquinone xanthogenate and hydroquinone thiocarbaminate. The so-called "Wöhler" substances - addition products of hydrogen sulfide and quinone- are discussed. In tracing their mode of formation it is concluded that: (1) the "Wöhler" substances are no chemical entities ; (2) none of the synthetic substances described is contained to a major proportion in "Wöhler's" substances; (3) it may be possible by thorough studies to separate chemical entities from these substances. The results of the foregoing investigations are summed up as follows : No chemical entities were obtained from the quinone or its derivatives with hydrogen sulfide, sodium sulfide or alkali polysulfides. But all products thus obtained gave (in alkaline solution) blue dyes with dimethyl p phenylene diamine thiosulfonic acid. The claim of a patent regarding substances obtained directly from quinone or its derivatives as denoted above appears unjustified. This document consists of two parts. The second part contains a list of the 40 compounds investigated. In German.

PB L 28001. JULIUS and FUSSENEGGER. "Salycinschwarz VT, Kalle." (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7380-7385 of FIAT Microfilm Reel 5 A) May 1905. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50.
Analysis of "Salycinchwarz VT, Kalle," proved that this product was a mixture of several types of which 1 - amino-2 - naphthol - 4 - sulfonic acid and β- naphthol were the essential components. In German.

PB L 28002. JULIUS and BLANGEY. Process for the preparation of monochloro - 1 - naphthol. Patent application K 27886 IV/12g, Kalle. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7386-7390 of FIAT Microfilm Reel 5 a) May 1905. 3 f. Price: Microfilm - $1.00 - Enlargement print-$1.50.
Investigations confirmed the statements made in the patent application : Monochloro - 1 - naphthol is a uniform substance. It corresponds to the chloro-naphthol of the chemical formula  In German.

PB L 28003. JULIUS and MUNCH, E. Effect of formaldehyde on thiosulfuric acid. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7391-7393 of FIAT Microfilm Reel 5 A) May 1905. 2 f. Price: Microfilm - $1.00 - Enlargement print-$1.50.
It was observed that a sodium thiosulfate solution to which formaldehyde and hydrochloric acid were added fails to give a sulfur precipitate, even if the effect lasts for several days. The supposed reason of this phenomenon is discussed and found to be a sodium hydroxymethylenthiosulfate as had been observed before by Vanino, though this intermediate compound could not be obtained by either of the research workers - yet an odor of leek had been observed in both cases. In German.

PB L 28004. JULIUS and GUMLICH. New process for the preparation of p - amino dimethylaniline thiosulfonic acid. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7394-7404 of FIAT Microfilm Reel 5 a) May 1905. 7 f. Price : Microfilm - $1.00 - Enlargement print-$1.50.
A new process was checked by which a solid thiosulfonic acid is obtained by reacting equimolar amounts of p - amino dimethyl aniline and p - nitrosodimethylaniline with thiosulfate solution of weak acetic acid to form p - amino dimethyl aniline thiosulfonic acid. No oxidizing agent is necessary. In German.

PB L 28005. FUSSENEGGER. "Braunsalz O" (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7408-7411 of FIAT Microfilm Reel 5 A) May 1905. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50.
Chemical analysis of the above substance showed its com-

position of equal amounts of the hydrochloride of mono aceto m phenylene diamine and potassium ferrocyanide. In German.

PB L 28006. JULIUS. Re - testing of German patent application A 10917 IV/22a., Geigy. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7412 - 7423 of FIAT Microfilm Reel 5 A) Jun 1905. 8 f. Price: Microfilm-$1.00 -Enlargement print-$1.50.
This document contains detailed discussions on the analysis of 5 blue and black "Eriochrome dyes" By Geigy. In German.

PB L 28007. ABEL. Checking of patent application P 18216 IV/22a. Höchst. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7424-7427 of FIAT Microfilm Reel 5 A) Jul 1905. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
A process for the preparation of a mono azo dye suitable for producing blue lacquer dyes was developed by combining the diazo compound of 1 - amino - 4, 5 - dichloro benzene 2-sulfonic acid with β-naphthol. The process was confirmed by re- examination. The copy is almost illegible. In German.

PB L 28008. JULIUS and FUSSENEGGER. Checking of U.S. patent 790364 of May 23, 1905 (Geigy in Basel) and examination of the dye obtained. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7428-7433 of FIAT Microfilm Reel 5 A) Jul 1905. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50.
An analysis of the dye, the preparation of which was claimed in the patent, revealed the dye to be the combination of diazotized 1.2 - aminonapthol 4 sulfonic acid + β naphthol - 6 sulfonic acid. In German.

PB L 28024. JULIUS and BLANGEY. Azo dyestuffs from p-amino-p'-dimethylaminodiphenylamine-o-sulfonic acid and p-amino-p'-phenylaminodiphenylamine disulfonic acid. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7527-7533 of FIAT Microfilm Reel 5 A). Oct 1905. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Experiments are reported for the preparation of azo dyestuffs from p-amino-p'-dimethylaminodiphenyl amine-o-sulfonic acid and from p-amino-p'-phenylamino diphenylamine disulfonic acid. Comparison with other similar types is made - which showed that the new compounds did not present any improvement. Description of the experiments are given, as well as color charts. In German.

PB L 28025. JULIUS and BUSSENEGGER. Eriochrome blue-black RL and eriochrome black B, Geigy. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7534-7539 of FIAT Microfilm Reel 5 A). Oct 1905. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The analysis of eriochrome blue black RL proved it to be identical with a black dye analyzed previously. "Eriochrome black B" was identified as a mixture of "Eriochrome blue black" and "Eriochrome black A". Detailed descriptions of the analytical methods are added. In German.

PB L 28026. JULIUS and BLANGEY. Preparation of triphenylmethane dye similar to patent blue. (I. G. Farbenindustrie. Journal of Central Laboratory for dyestuffs). (Frames 7540-7549 of FIAT Microfilm 5 A). Oct 1905. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This document contains a detailed description of the preparation of a dye of which the essential feature is the condensation of sulfoacetyl metanilic acid with tetramethyl-diamino diphenylcarbinol. Nothing is stated about the qualities of this dye. In German.

PB L 28027. FUSSENEGGER. Anthracenechrome blue F, G, BB. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7550-7554 of FIAT Microfilm Reel 5 A). Oct 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Anthracene blue F was homogeneous, consisting of o-amino-p-acetanino phenol and 1,8-dihydroxy-naphthalene-3,6-sulfonic acid. G, also homogeneous, consisted of o-amino-p-acetamino phenol and 1-amino-8-naphthol-4-sulfonic acid. BB was a mixture G and B, a commercial name of the same firm examined earlier. In German.

PB L 28028. JULIUS. Salicin black UTG Kalle. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7555-7557 of FIAT Microfilm Reel 5 A). Oct 1905. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Analysis of salicine black UTG, Kalle, showed that this dye is essentially the same as the previously examined salicine black UT Kalle, the principal component in both dyes being formed by 1-diazo-β-naphthol-4-sulfonic acid and β-naphthol. In German.

PB L 28029. JULIUS and FUSSENEGGER. Anthracene chrom blue R and B, Cassella. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7558-7566 of FIAT Microfilm Reel 5 A). Nov 1905. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Analysis of anthracene chrom blue R, Cassella, proved that this dye is the combination of 2,4-amino-phenol-6-sulfonic acid, acylated on the amino group in the 4-position, diazotized and coupled with β-naphthol. Anthracene blue B consist mainly of R plus an additional dye. In German.

PB L 28030. JULIUS and FUSSENEGGER. Analysis of substantive blue Oehla 5653. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7667-7574 of FIAT Microfilm Reel 4 A). Nov 1905. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Analysis confirmed this blue to be a conbination of 1) o-toluidine with R-acid and m-hydroxydiphenylamine, 2) poly sulfonic aniline blue, 3) Anilin salt, 4) Sodium chloride, Glauber's salt. In German.

PB L 28031. LOHSE. Process for the production of 2-amino-5-nitrophenol and a dye from this compound with 2 amino 3 naphthol-6-sulfonic acid. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7575-7578 of FIAT Microfilm Reel 5 A). Nov 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This document is written in faded German script and hence is illegible.

PB L 28032. GUMLICH. Re-testing the patent application for the production of 1-diazo-2-hydroxy-and 2-diazo-1-hydroxy naphthalene. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7579-7581 of FIAT Microfilm Reel 5 A). Nov 1905. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The re-testing of the above patent application proved both compounds to be excellent dyes. They were obtained by diazodizing the hydro-chlorides of the corresponding amino naphthols, according to standard methods. The patent was granted. In German.

PB L 28033. GUMLICH. Experiments for substituting the diazogroup in hydroxydiazo compounds of the naphthalene series by hydrogen. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7582-7586 of FIAT Microfilm Reel 5 A). Dec 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Starting from naphthylamine sulfonic acids having one sulfonic acid group in p- and one in o- position to an amino group, the amino group was diazodized. The sulfonic acid group in o-position to the diazo group was subsequently

replaced by hydroxyl. By coiling the obtained diazo naphthol sulfonic acid with zinc just the diazo group is finally replaced by hydrogen. This procedure proved to be a basic one for obtaining starting materials of the naphthol series for dyes having an analogous constitution. In German.

PB L 28034. JULIUS and FUSSENEGGER. Analysis of azo cerise M, Kalle. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7587-7600 of FIAT Microfilm Reel 5 A). Dec 1905. 8 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The analysis of azo cerise M, Kalle confirmed that the dye consists of a combination of 2 dyes: 1. o-amino azo toluene and α-naphthol-3.6-disulfonic acid mixed with 2. a combination of o-amino azotoluene and β-naphthol-3,7-disulfonic acid. In German,

PB L 28035. HAECKEL. Re-testing German patent application F 19946 IV/22a Höchst. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7601-7605 of FIAT Microfilm Reel 5 A). Dec 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The re-testing of the above patent confirmed that the blue dye from 2-amino-4-chlorophenol and chromotropic acid had fine washing and dyeing qualities. This is a short document. In German.

PB L 28036. JULIUS and FUSSENEGGER. Investigation of diazo dye suitable for the preparation of color lacquers from diamino-p-dixylylonethane and R-salt. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7606-7610 of FIAT Microfilm Reel 5 A). 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This document contains investigations of a diazo dye, suitable for the preparation of color lacquers from diamino-p-dixylylmethane and 2 R-salt, which is compared to an older dye Brillantcarmin L (diamino dixylyl-phenylmethane and 2 R-salt). In German.

PB L 28037. LUTTRINGHAUS. Blue sulfur dye from ω-cyanomethyl-otoluidine. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7611-7619 of FIAT Microfilm Reel 5 A). Dec 1905. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
A blue sulfur dye is produced from nitrosophenol by condensation with omega-cyanomethyl o-toluidine in sulfuric acid. The resulting indophenol is treated immediately in this sulfuric acid solution with sulfurylchloride and the substance thus obtained is precipitated in water, and finally heated with polysulfide. This document is written in German script.

PB L 28038. JULIUS and BRAREN. Analysis of thiogene purpurine G, Höchst. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7620-7626 of FIAT Microfilm Reel 5 A). Dec 1905. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This document is completely faded and illegible. In German.

PB L 28039. FUSSENEGGER. Analysis of Lacquer Bordeaux B, and Lacquer Violet R, Berlin. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7627-7631 of FIAT Microfilm Reel 5 A). Jan 1906. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Analysis of lacquer Bordeaux B proved it to be a combination of o-chloro-p-anisidin and R-salt. Lacquer Violet R, Berlin is a combination of p-amino phenylnaphtyl-1.2-triazol-3.8-disulfonic acid and R salt. This document contains a detailed description which is only partly legible. In German.

PB L 28040. VILLIGER. Blue wool dye from amino naphthoquinone imine-7-sulfonic acid. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7632-7643 of FIAT Microfilm Reel 5 A). Jan 1906. 7 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Preparation of and testing results on the above products are described in detail. The structural formulas are faded and the main part of this document is written in an illegibly small hand writing. In German.

PB L 28041. JULIUS and BLANCEY. Process for the preparation of green to grey blue sulfur dyes. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7644-7650 of FIAT Microfilm Reel 5 A). Jan 1906. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Verification of an old German patent application showed that the dyes obtained by this method do not prove to be worthwhile products. In German.

PB L 28042. JULIUS and FUSSENEGGER. Manchester Brown EE. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7651-7660 of FIAT Microfilm Reel 5 A). Feb 1906. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Manchester Brown EE is produced by tetrazotizing m-Tolylen diamine and by combining the resulting tetrazo compound with 2 mol. m-phenylendiamine or with m-tolylen diamine. A description of analysis is contained in this document. In German.

PB L 28043. LUTTRINGHAUS. Green sulfur dyes. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7661-7680 of FIAT Microfilm Reel 5 A). Feb 1906. 11 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The above dyes are developed from (1) p-amino-naphthyl-p'-hydroxy phenyl amine-sulfonic acid by reaction with polysulfides in the presence of metallic copper or copper salt (2) phenyl- or p-tolyl amino naphthyl-p'-hydroxy phenyl amine-sulfonic acid. Detailed methods of preparation are indicated. In German.

PB L 28044. JULIUS and BLANCEY. 2-diazo-1-hydroxy naphthalene-5-sulfonic acid and β-naphthol. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7681-7692 of FIAT Microfilm Reel 5 A). Mar 1906. 7 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Two different methods of preparation of the above blue wool dye are described. This document contains an investigation concerning a protest against a German patent application number A 11147 IV/22a. In German.

PB L 28045. FUSSENEGGER. "Rhodamin ponceau G." (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7693-7703 of FIAT Microfilm Reel 5 A). Mar 1906. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The above product contains about 75% of dextrin and about 25% of a dye which is the condensate of diethyl-m-amino-hydroxy-benzoylbenzoic acid with p-cresol. In German.

PB L 28046. FUSSENEGGER. "Echtheizenblau B." (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7704-7708 of FIAT Microfilm Reel 5 A) Mar 1906. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This mordant dye was found to be a combination of p-chloro-o-aminophenol and chromo-tropic acid. In German.

PB L 28047. LOHSE. Methylene azur. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7709-7721 of FIAT Microfilm Reel 5 A). Apr 1906. 7 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The preparation of the above dye from methylene blue by oxidation with bichromate and an acid is described. In German.

PB L 28048. JULIUS and FUSSENEGGER. "Brillantlackrot R." (I. G. Farbenindustrie. Journal of Central Laboratory

for Dyestuffs) (Frames 7722-7727 of FIAT Microfilm Reel 5 A) May 1906. 4 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Analysis showed that the above dye is a combination of aniline and 2-hydroxynaphthoic acid (melting point 217° C.). In German.

PB L 28049. JULIUS and FUSSENEGGER. "Pigment scharlach G" and "Heliopurpurin B." (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7728-7736 of FIAT Microfilm Reel 5 A). May 1906. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The first dye was identified as anthranilic acid combined with 2-naphthol-6-sulfonic acid, second as p-chloraniline and benzoyl-1-amino-8-naphthol-4,6 disulfonic acid. In German.

PB L 28050. LOHSE. Dealkylation of rhodamines by means of bichromate and sulfuric acid. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7737-7747 of FIAT Microfilm Reel 5 A) May 1906. 6 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The changes in the shades of rhodamine dyes by their dealkylation by means of potassium bichromate and sulfuric acid are investigated. This document is written in German script.

PB L 28051. FUSSENEGGER. Retesting of German patent application F 20188 IV/22a, Höchst, concerning an ortho-hydroxyazo dye. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7748-7750 of FIAT Microfilm Reel 5 A) May 1906. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The preparation of a blue wool dye from diazotized o-aminophenol and chromotropic acid is discussed. If o-aminophenol is replaced by o-amino-p-cresol another blue dye of the same high quality is produced. In German.

PB L 28052. JULIUS and HOLDERMANN. Preparation of dimethylaminoanthraquinones from dimethylaminobenzoyl benzoic acid and from some derivatives thereof. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7751-7757 of FIAT Microfilm Reel 5 A) May 1906. 4 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Dimethylaminobenzoyl benzoic acid prepared after the Friedel-Crafts method was condensated to dimethylaminoanthraquinone with a moderate yield. Purification of the crude product lessened this yield considerably. Another method of condensation seemed more successful. Benzyl benzoic acid was condensated with sulfuric acid and the resulting anthranol was oxidized. However, it was confirmed that dimethylaminoanthraquinone was unsuitable for the production of dyes. In German.

PB L 28053. LOHSE. Dealkylation of rhodamines by means of permanganate or by pyrolusite and acid. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7758-7762 of FIAT Microfilm Reel 5 A) Jun 1906. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Investigations were made on the influence of dealkylation of rhodamines, by means of permanganate or manganic oxide and acid or by means of bichromate and sulfuric acid, on the change of the shades of the color. This document is written in German script.

PB L 28054. LOHSE. Dealkylation of rhodamine by means of dichromate and sulfuric acid. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7763-7772 of FIAT Microfilm Reel 5 A. Jun 1906. 5 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The method of dealkylation of rhodamine by means of dichromate and sulfuric acid appearing of interest for commercial use was developed and the directions for this method are stated in detail in this document written in German script.

PB L 28055. JULIUS and BLANCKY. Retesting German patent application G 21434 IV/22 of Ciba Basel: Monoazo dyes from o-diazonaphthol sulfonic acids. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7773-7781 of FIAT Microfilm Reel 5 A) Jul 1906. 5 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The reactivity of o-diazonaphthol sulfonic acids is raised considerably if the combination with azo components takes place in presence of some organic neutral or basic compounds such as alcohols, pyridine, or aniline. In German.

PB L 28056. JULIUS and BRAREN. Black wool dyes from phenyl-1-naphthylamine 6-sulfonic acid and 7-sulfonic acid. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7782-7786 of FIAT Microfilm Reel 5 A) Jul 1906. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The compounds mentioned in the title were prepared according to a patent of Elberfelder Farben of 1893. These naphthylamine sulfonic acids produce dyes when diazotized and coupled with diazotized aniline, metanilic acid, disulfanilic acid, 1-naphthylamine-3,6- or -3,7-disulfonic acid. The last one of these is an excellent wool dye but its costs of production seemed too high for practical use. In German.

PB L 28057. JULIUS and MULLER, RUDOLF. Azo dyes by application of toluene sulfo-1-amino-2-naphthol-6-sulfonic acid. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7787-7793 of FIAT Microfilm Reel 5 A) Jul 1906. 4 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
It was tried to build up azo dyes from a starting product obtained by reacting p-toluene sulfochloride with 1-amino-2-naphthol-8-sulfonic acid. This paper contains a detailed description of the preparation and comparison of the end products, which were not satisfactory. In German.

PB L 28058. JULIUS and BRAREN. Preparation of methylamine hydrochloride. (I. G. Farbenindustrie. Journal of the Central Laboratory for Dyestuffs) (Frames 7794-7798 of FIAT Microfilm Reel 5 A) Jul 1906. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The directions are given for the preparation of methylamine hydrochloride from ammonium chloride and formaldehyde. In German.

PB L 28059. LOHSE. Prepration of nitro-p-phenilene diamine and of red-brown sulfur dyes. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7799-7812 of FIAT Microfilm Reel 5 A) Jul 1906. 7 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The directions are given for the nitration of the monoacetate of p-phenilene diamine which can replace the diacetate in this operation. Moreover, the directions are given for the condensation of dinitrochloro benzene with nitro-p-phenylene diamine. The preparation of a sulfur dye from this condensation product with sulfur and sodium sulfide is described. This document though typewritten is almost illegible. In German.

PB L 28060. JULIUS and SCHUBERT. Substituting 2,5-dihydroxynaphthalene-7-sulfonic acid for the I-acid in various dyes. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7813-7817 of FIAT Microfilm Reel 5 A) Aug 1906. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
It was investigated to what extent the properties of certain diazo dyes derived from amino naphthol sulfonic acid I were modified, when the corresponding 2,5-dihydroxy-naphthalene-7-sulfonic acid was used in the place of I-acid. The combination with dihydroxy naphthalene sulfonic acid proved equivalent to the corresponding I-acid dyes. In German.

PB L 28061. JULIUS and others. Effect of sulfurous acid on zinc dust and formaldehyde in the presence of alco-

Lab. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7818-7825 of FIAT Microfilm Reel 5 A) Aug 1906. 5 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The reaction referred to in the title takes the same course in the presence of alcohol as in its absence; the difference being merely the necessity of lowering the temperature at which the reaction takes place so that the formation of formaldehyde hydrosulfite may be observed. Tables and a graph are included. In German.

PB L 28062. JULIUS and VILLIGER. I. Rhodol from the intermediate phthalic acid diethyl-m-amino phenol and pyrogallol. II. Rhodol from the intermediate, phthalic acid diethyl-m-aminophenol and gallic acid. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7826-7830 of FIAT Microfilm Reel 5 A) Aug 1906. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Preparation of these two substances and the calculation of the production cost are presented. In German.

PB L 28063. LOHSE. "Rosa 82846." (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7831-7835 of FIAT Microfilm Reel 5 A) Sep 1906. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Chemical analysis of "Rosa 82846" showed this dye to be a pure, completely esterized asymmetric dialkyl rhodamine. In German.

PB L 28064. VILLIGER. Retesting of German patent application F 20925 IV/22a, Höchst. Process for the preparation of dyes (dyeing on a mordant) of the indigo series. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7836-7840 of FIAT Microfilm Reel 5 A) Sep 1906. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Dyes of the indigo series capable of dyeing on a mordant are prepared by reacting indoxyl or allied substances with hydroxy quinone in alkaline solution. The resulting leuko substances are oxidized. This process was re-examined and confirmed. In German.

PB L 28065. VILLIGER. Determination of phenylglycine. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7841-7857 of FIAT Microfilm Reel 5 A) Sep 1906. 9 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Phenylglycine is converted into its acetyl derivative and the acetic anhydride necessary for this reaction is measured by titration. Other quantitative methods are mentioned and compared to the one above. Detailed descriptions and tables are given in this document. In German.

PB L 28066. VILLIGER and BLANGEY. Experiments concerning the coupling-velocity of the zinc and sodium salt of 1-diazo-2-naphthol-4-sulfonic acid with beta-naphthol. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7858-7861 of FIAT Microfilm Reel 5 A) Oct 1906. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Experiments concerning the influence on the rate of the coupling reaction of the zinc and sodium salts of the above compound with beta-naphthol resulted in the finding that: (1) The zinc salt accelerates the rate of the coupling reaction more than pure sodium salt; (2) the sodium salt of the above compound in combination with sodium chloride accelerates the coupling reaction even more than the pure zinc salt. This document contains tables in addition to a detailed description. In German.

PB L 28067. BRAREN and JULIUS. Investigations on blue substantive dyes from p-phenylene diamine. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7862-7879 of FIAT Microfilm Reel 5 A) Oct 1906. 10 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Investigations on blue substantive dyes from p-phenylene diamine had been done in a great number of German patents. Yet combinations of 2-amino-5-naphthol-7-sulfonic acid (T-acid or phenyl T-acid) with a m-diamine had not been tried. They are the object of this document written in German script. The results did not produce any dye suitable for practical use.

PB L 28068. BRAREN. Color lacquers containing acetyl-m-phenylene diamine in central position. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7880-7883 of FIAT Microfilm Reel 5 A) Oct 1906. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Production of dyes from the above starting material was investigated and compared to Lithol bordeaux (B and R). However, they did not show any improvements and the costs of production were rather high. In German.

PB L 28069. JULIUS and HOLDERMANN. Experiments in the styrogallol series. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7884-7886 of FIAT Microfilm Reel 5 A) Oct 1906. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
In the course of experiments trying to subject compounds analogous to p-aminoanthraquinone to melting with potassium hydroxide in order to produce vat dyes similar to indanthrene, derivatives of styrogallol were obtained. Styrogallol, obtained by condensation of cinnamic acid with gallic acid is a dihydroxyanthracumarin. Several compounds of a structure similar to styrogallol were investigated as to their dye forming qualities. Some azo dyes were produced from it with m- and p-cinnamic acid showing intense coloring. Nitrated styrogallol produced an effective mordant dye. In German.

PB L 28070. JULIUS and HELDERMANN. Acridone research. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7887-7892 of FIAT Microfilm Reel 5 A) Oct 1906. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The goal was to obtain indanthrene-like vat dyes, and possibly also azo dyes. The processes used are described. They did not, however, lead to any useful dye. In German.

PB L 28071. FUSSENEGGER. "Chromoglaucin VM", Höchst. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7893-7898 of FIAT Microfilm Reel 5 A) Nov 1906. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The dye was analyzed and found to be very similar to "Gallamin blue" Geigy. A complete analysis was not made. In German.

PB L 28072. FUSSENEGGER. "Lake red D" and "normal yellow 3 GL," Höchst. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7899-7903 of FIAT Microfilm Reel 5 A) Nov 1905. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The first-named substance proved to be a combination of anthranilic acid and beta-naphthol, the second a combination of m-xylidine-o-sulfonic acid and 1-p-sulfophenyl-5-pyrazolone-3-carbonic acid. In German.

PB L 28073. BEYER. p-Phenylene diamine-monoazo-1,8-dihydroxynaphthalene-3,6-disulfonic acid. (Victoria violet 4 BS, Höchst.) (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7904-7912 of FIAT Microfilm Reel 5 A) Nov 1906. 5 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Instructions for the preparation of this dye are given, also a cost calculation. In German.

PB L 28074. VILLIGER. "Hydrosulfite MLB" Höchst. (I. G. Farbenindustrie. Journal of Central Laboratory for

Dyes (contd)

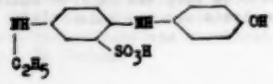
Dyestuffs) (Frames 7913-7927 of FIAT Microfilm Reel 5 A) Nov 1906. 8 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Crystal water was removed from crystallized $Na_2S_2O_4 \cdot 2H_2O$ (a) by heating in vacuum, (b) by heating starting at normal pressure and reducing the pressure gradually. It was investigated whether the method used had any influence on the resistance of the product to oxygen. Also investigated were the water retaining power and other properties of the crystallized substance. Results are given in tables. In German.

PB L 28075. JULIUS and FUSSENEGGER. "Naphthylamin-schwarz" 4 BN and BH, Elberfeld, and "Aminschwarz" 4 B, 6 B, and 8 4 B, Berlin. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7943-7953 of FIAT Microfilm Reel 5 A) Nov 1906. 6 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Analyses of the above products showed that the "Aminschwarz" brands contained 2-naphthylamine-4,6-disulfuric acid-azo-$\alpha$-naphthylamine-azodimethyl-aniline, whereas the Elberfeld products contained p-nitro-o-aminophenol and 1-naphthol-5-sulfonic acid. In German.

PB L 28076. VILLIGER. Hydrosulfite NLB (Höchst). A supplement to the report dated Nov. 23, 1906. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7954-7958 of FIAT Microfilm Reel 5 A) Nov 1906. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Additional experimental data on the loss of crystal water and on the solubility of sodium hydrosulfite are presented. In German.

PB L 28077. MÜDIGER. "Schwefelviolett." (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7964-7968 of FIAT Microfilm Reel 5 A) Dec 1906. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Directions are given for producing phenyl-m-toluene diamine which is used as starting material in the preparation of the above dye. In German.

PB L 28078. LÜTTRINGHAUS. A green sulfur dye. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7969-7975 of FIAT Microfilm Reel 5 A) Dec 1906. 4 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
In the preparation of the above dye from




ethyl-$\alpha$-naphthyl-amine sulfonic acid was used. In German.

PB L 28079. LOHSE. Pure, asymmetrical dimethyl-homorhodamine ethyl ester. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7976-7982 of FIAT Microfilm Reel 5 A) Dec 1906. 4 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Experiments for the preparation of "Rosa 82846" consisting of the above compound are described. In German.

Detergents

* PB L 81619. BRANDNER, JOHN D. and others. Synthetic detergents and related surface active agents in Germany. (FIAT Final Rept 1141) n. d. 120 p. Price: Mimeo-$3.00
The report gives the comparative evaluation of synthetic detergents as produced and tested in Germany. Research work carried out in the principal German industrial laboratories on surface active agents immediately before and during the war is described. In several instances this work led to pilot plant installations which are also covered. A number of plant processes for products being manufactured are included. A list of all the synthetic detergents and related products made in Germany has been compiled and arranged alphabetically by trade name. The composition and reference to the source of information is given. Lists of documents, and drawings and bibliography are attached.

PB L 79310. CALDWELL, J. M. and SMITH, G. H. Mersol and Hostapon processes. I. G. Farbenindustrie, Höchst. (BIOS Final Rept 1222, Item 30). Oct 1946. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00
The information in this report supplements that contained in a fuller report entitled, "Textile auxiliary products. Development of Mersol and Hostapan processes by I. G. Farbenindustrie, Hoechst", BIOS Final Report 478, PB 31278, abstracted in v. 2, p. 942, of this Bibliography. The present report is based upon a visit to I. G. Hoechst on October 9, 1946 and is concerned chiefly with the production of Mersolat and Hostapon with particular reference to BIOS 478. A photograph and several flowdiagrams are included.

* PB L 81383. HOLM, M. M. and others. The Oxo process. (FIAT Final Rept 1000) Feb 1947. 78 p. Price: Mimeo-$2.00
The Oxo process is a wartime development of the German firm of Ruhrchemie A. G. and I. G. Farbenindustrie A. G. It involves the addition of carbon monoxide and hydrogen to olefins to yield aldehydes and alcohols and is generally applicable with very few exceptions to all double bonds. The present report summarizes all phases of this development. It describes the various modifications of the process, as proposed by the various German workers in the field and furthermore includes information on those more or less new developments connected directly with the Oxo process or specific for Oxo products. A general description of the state of the art in Germany is presented and information required by the reader for his own evaluation is included. Since the report refers repeatedly to documents published in Technical Oil Mission (TOM) films a complete bibliography of these microfilms has been included. Also, various flow sheets, drawings, diagrams, sketches on wetting and foaming properties and on detergency of Oxo alcohol sulfate are attached.

* PB L 81819-S. U. S. FIELD INFORMATION AGENCY, TECHNICAL. The P3 cleaners - Henkel & Cie., Düsseldorf. (Tech Bulletin T-46, Supp.) May 1947. 6 p. Price: Mimeo-25¢
These products are primarily mixtures of alkali and alkaline salts with or without the addition of wetting agents or disinfectants. They are used for a wide range of cleaning in industry and in food processing. The P3 cleaners are briefly mentioned in BIOS Final Rept. No. 711 (PB 45243, v. 5, p. 283) and in BIOS Final Rept. No. 86 (PB 18911, v. 1, p. 117). These cleaners are all dry powders with one exception. The preparation is carried out in conventional type mixers. When part of the ingredients are used in solutions, the water is taken up as water of crystallization by the anhydrous salts. Description of the P3 cleaners and preparation of ingredients are given.

Agricultural Chemicals

PB L 78639. CROSS, H. Y. and SNYDER, F. M. Field tests of uniforms impregnated with mite toxicants. I. Pre-

tection studies. II. Stopping-time studies. n. d. 17 p. Price: Microfilm-$1.00 - Photostat-$2.00
In a search for chemicals more resistant to washing than benzyl benzoate, more than 6000 materials were subjected to screening tests at the Orlando, Fla., laboratory. In part I data obtained during the summer of 1946 are presented on the effectiveness of 18 outstanding materials compared with benzyl benzoate. Benzil, 2-thenyl benzoate, p-cresyl benzoate, diphenyl carbonate, and 2-thenyl salicylate were found to be especially promising for uniform impregnations. Part II discusses the relation between stopping time and protection. It was concluded from these data that some correlation exists between stopping time and protection but no definite limit of time can be set for all materials on the basis of these tests. If stopping times are 15 minutes or less, protection of 90% or more may be expected, but when stopping times are greater than 15 minutes, protection ranging from 0 to 100% may be expected. Tables and bibliography are included.

PB L 13091. I. G. FARBENINDUSTRIE A. G. T. E. A. Buro Report primarily concerned with nitrogen chemistry, 1933-1936. (FIAT Microfilm Reel C 50, Frames 1-485). Jan 1946. 499 f. Price: Microfilm-$5.00 - Enlargement print-$50.00
The individual items on this reel are listed below. They will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $5.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| PB Numbers Frames | Title | Price |
|---|---|---|
| L 50527 Frames 1-10 | Solid carbon dioxide. In German. | $1.00 |
| L 50528 Frames 11-13 | Results of the examination of the methods of improving nitrophoska. In German. | 1.00 |
| L 48283 Frames 14-18 | The production of hydrogen for welding purposes by cracking ammonia. In German. | 1.00 |
| L 50529 Frames 19-22 | Alkacide process. In German. | 1.00 |
| L 50530 Frames 23-44 | Humus and carbonaceous fertilizer. Iron carbonyl and nickel carbonyl. In German. | 2.00 |
| L 50535 Frames 45-48 | Increase of briquet production by the "Mitteldeutsche Braunkohlenwerke" of the I. G. In German. | 1.00 |
| L 50534 Frames 49-51 | Production program. In German. | 1.00 |
| L 50533 Frames 52-55 | Fluctuations of the content of "mixed fertilizers" and their consequences for producer and consumer. In German. | 1.00 |
| L 50532 Frames 56-60 | Pearl calcium cyanamide and granulated calcium cyanamide "Knapsack." Production process and quality of products. Production costs. In German. | 1.00 |
| L 50531 Frames 61-72 | Scientific investigations into the decomposition process in "Nitrophoska" fertilizers. In German. | 1.00 |
| L 50536 Frames 73-78 | Agricultural questions: The value of cyanamide for agriculture. In German. | 1.00 |
| L 50537 Frames 79-88 | Reorganization of the advisory boards and experimental institutions in the fertilizer industry. In German. | 1.00 |
| L 50538 Frames 89-111 | Experiments for the preparation of humus fertilizer. Chemical technical part. Agricultural part. In German. (These frames may reproduce poorly). | 2.00 |
| L 50539 Frames 112-118 | The sulfur balance at Leuna. In German. | 1.00 |
| L 50540 Frames 119-120 | Decomposition of wood with nitric acid. In German. | 1.00 |
| L 50541 Frames 121-131 | Cyanamide, especially granular cyanamide. In German. | 1.00 |
| L 50542 Frames 132-133 | Report on the first nitrogen meeting in Ludwigshafen on Jan 10, 1935. In German. | 1.00 |
| L 50543 Frames 134-140 | Sales and market of nitrogen fertilizer in Germany and abroad. In German. | 1.00 |
| L 50544 Frames 141-143 | Sales of commercial nitrogen products. In German. | 1.00 |
| L 50545 Frame 144 | Report of the bookkeeping center on the third quarter and preliminary report on the entire year of 1934. In German. | 1.00 |
| L 50546 Frames 145-149 | Credit requests reported to TEA. In German. | 1.00 |
| L 50547 Frames 150-151 | Purchase of real estate in Halle a. S. In German. | 1.00 |
| L 50548 Frames 152-153 | Report on agreements to be concluded. In German. | 1.00 |
| L 50549 Frames 154-157 | Catalytic production of hydrocyanic acid from ammonia, methane and air. In German. | 1.00 |
| L 50550 Frames 158-164 | Ways to supply the German agriculture with fodder protein. In German. | 1.00 |
| L 50551 Frames 165-171 | Response to Dr. Bachmann's report on "The importance of calcium cyanamide for agriculture." In German. | 1.00 |
| L 50552 Frames 172-173 | Report on the third nitrogen meeting in Ludwigshafen on June 18, 1935. In German. | 1.00 |
| L 50553 Frames 174-179 | Sales and market situation of nitrogen fertilizer. In German. | 1.00 |
| L 50554 Frames 179A-180 | Negotiations for the renewal of the contacts with CIA and Chile. In German. | 1.00 |
| L 50555 Frames 181-184 | New nitrogen projects abroad (Spain, Finland, Egypt, Japan). In German. | 1.00 |
| L 50556 Frame 185 | Central bookkeeping's report on the year 1934 and the first quarter of 1935. In German. | 1.00 |
| L 50557 Frames 186-188 | Construction of a power station for highest pressure and counter-pressure and a low | |

temperature carbonization plant for briquets at the mine Naumburg near Deuben. In German. 1.00

L 50658 Frames 189-197 — Credit requests reported to TEA. In German. 1.00

L 50659 Frames 198-205 — Reports on agreements to be concluded. In German. 1.00

L 50660 Frames 206-210 — Factory problems: Production program. In German. 1.00

L 50661 Frames 211-213 — Review of experimental work of the "Hauptgruppe I" (without carbon hydrogenation). Preliminary concentration of nitric acid. In German. 1.00

L 50662 Frames 214-218 — Production of "Nitrophoska" and calcium cyanamide-phosphate mixture in Piesteritz. In German. 1.00

L 50663 Frames 219-220 — Report on the fourth nitrogen meeting in Ludwigshafen on Oct 23, 1935. In German. 1.00

L 50664 Frames 221-235 — Report on East Asia with special regard to China and the nitrogen discussions in China. In German. (Frame 228 poorly legible). 1.00

L 50665 Frames 236-237 — Granting of patent licenses and informing foreign countries about own experiences. In German. 1.00

L 50666 Frames 238-243 — Sales and market situation of fertilizer nitrogen at home and abroad. In German. 1.00

L 50667 Frames 244-245 — Sales and market situation for commercial nitrogen. In German. 1.00

L 50668 Frames 246-263 — The new international agreements regarding nitrogen. In German. 2.00

L 50669 Frame 264 — Survey on research of the main group I (with the exception of hydrogenation of coal) (continuation). In German. 1.00

L 50670 Frames 265-267 — Development of the financial situation of branch I, with special regard to the expenditures for new buildings, repairs, etc. In German. 1.00

L 50671 Frame 268-273 — Requests for credit. In German. 1.00

L 50672 Frame 274-275 — Expansion of the experimental plant for "Lanusa." In German. 1.00

L 50673 Frame 276 — Report of the central bookkeeping on the second quarter of 1935. In German. 1.00

L 50674 Frames 277-278 — Problems of manufacture. In German. 1.00

L 50675 Frames 279-280 — Report on the fifth nitrogen meeting in Ludwigshafen on Dec 5, 1935. In German. 1.00

L 50676 Frames 281-282 — Sales and market situation of fertilizer nitrogen at home and abroad. In German. 1.00

L 50677 Frames 283-289 — Credit proposal "TEA." In German. 1.00

L 50678 Frames 290-295 — Report on contracts to be concluded. Contract with Yahagi Hiryo K. K. for the construction of an ammonia plant. In German. 1.00

L 50679 Frames 296-297 — The economic situation of the German calcium cyanamide industry. In German. 1.00

L 50680 Frames 298-314 — The development of fertilizing with nitrogen in Germany with special regard to the relationship of the effects of various nitrogen compounds on the fertilization of plants. In German. 2.00

L 50681 Frames 315-328 — Reformatory efforts towards a new way of life and their effect on fertilization. In German. (This document may not reproduce well in parts). 1.00

L 50682 Frames 329-330 — First nitrogen meeting in Ludwigshafen on Feb 20, 1936. In German. 1.00

L 50683 Frames 331-337 — Sales and market situation for fertilizer nitrogen. In German. 1.00

L 50684 Frames 338-342 — Sales and market situation for commercial nitrogen. In German. 1.00

L 50685 Frames 343-345 — Acquisition of coal fields. In German. 1.00

L 50686 Frames 346-357 — 120 atm. installation for the Leuna plant. In German. 1.00

L 50687 Frames 358-368 — Boiler damages at Oppau. In German. 1.00

L 50688 Frames 369-371 — Report on situations abroad. In German. 1.00

L 50689 Frames 372-380 — Credit requests reported to "TEA." In German. 1.00

L 50690 Frames 381-382 — Report on agreements to be concluded. In German. 1.00

L 50691 Frames 383-384 — Nitrogen meeting at Leuna on December 22, 1937. In German. 1.00

L 50692 Frames 385-388 — Sales and market situation for commercial nitrogen. In German. 1.00

L 50693 Frames 389-393 — Sales and market situation for fertilizer nitrogen. In German. 1.00

L 50694 Frames 394-420 — The agricultural situation by the end of 1937 and the prospects for the sale of nitrogen. In German. 2.00

L 50695 Frames 421-436 — Situation of the projects for foreign countries. In German. 2.00

L 50696 Frames 437-438 — Production program and actual productions. In German. 1.00

Agricultural Chemicals (contd

L 50597 Frames 439-440 — Nitrogen meeting in Ludwigshafen on Mar 25, 1938. In German. 1.00

L 50598 Frames 441-453 — Sales and market situation for fertilizer nitrogen at home and abroad. In German. 1.00 (Frames 441 to 451 are illegible).

L 50599 Frames 454-456 — Negotiations on extension of the international nitrogen contracts. In German. 1.00 (Frame 456 is illegible).

L 50600 Frames 457-459 — Sales and market situation for commercial nitrogen. In German. 1.00 (Frame 458 is illegible).

L 50601 Frames 460-470 — Production program. In German. 1.00 (May reproduce poorly in parts).

L 50602 Frames 471-475 — New projects of the lignite mines. In German. 1.00

L 50603 Frame 476 — Experimental research of the ammonia laboratory in the years 1936 and 1937. In German. 1.00

L 50604 Frames 477-485 — Projects abroad. In German. 1.00

L 50626 — T. E. A. Büro-Reports primarily concerned with nitrogen chemistry. (Index). 1.00

PB L 80824. KROP, STEPHEN. HETP. 1947. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
Concerns the toxicity and treatment of hexaethyltetraphosphate (HETP) poisoning.

* PB L 81386. MULLER, MAX M. and LEE, HARLEY C. Manufacture of phosphatic fertilizer by the Rhenania process. (FIAT Final Rept 1186) Jun 1947. 7 p. Price: Mimeo-25¢
A study of the operating technique and the developments made by Kali-Chemie A. G. in the production of "Rhenania" phosphate at their Brunsbüttelkoog plant. This is one of the few companies that has made a satisfactory phosphatic fertilizer on a commercial scale by calcining rock phosphate with sodium salts and silica. The important phases of the process are the proportioning of the chemical constituents in the raw mix and the control of a rather difficult rotary kiln operation. Detailed information regarding the process and the plant has been given in the following reports: BIOS Final Rept. 94 (PB 18913, v. 1, p. 1295, this Bibliography), BIOS Final Rept. 582 (PB 34741, v. 2, p. 937), and FIAT Rept 665 (PB 18777, v. 1, p. 1217). This report purposes to supplement the information already available and is not intended to be complete in itself.

* PB L 81638. TANNER, C. C. and others. Manufacture, formulation and application of the major pest control products in the British, U. S. and French zones of Germany. (BIOS Final Rept 1480, Item 22) Sep-Nov 1946. 94 p. Price: Microfilm-$3.25 - Photostat-$10.00
The information recorded was obtained for the most part by direct interrogation of plant managers, chemists, foremen and workers and by as detailed an examination of plants as was possible in the course of relatively short visits. Some of the facts recorded may well be regarded as elementary by readers who may be specialists in particular branches of pest control industry. However, it was considered desirable to describe in detail the processes as operated in order to record manufacturing techniques which might possess points of interest and novelty not recognized as such by the team.

## Plastics and Plasticizers

* PB L 81626. BRIGHTON, C. A. Manufacture of polyvinylidene chloride. (BIOS Final Rept 1478, Item 22) Mar 1947. 22 p. Price: Microfilm-$1.50 - Photostat-$3.00
Discussions were held with the technical men of I. G. Farbenindustrie at Ludwigshafen and Huels. At Huels, some information was obtained on the manufacture of the monomer but the work on the polymerization was only in the preliminary stages and very little useful information was available. At Ludwigshafen, the production of a copolymer (Diurit) containing 85% vinylidene chloride, 13% vinyl chloride, and 2% acrylonitrile had reached plant scale and the product was used extensively for the manufacture of bristles. The manufacture of an elaborately purified grade by polymer is described in detail. A copolymer containing 92.5% vinylidene chloride and 7.5% ethyl acrylate has been developed for the production of fine thread by spinning from a 25% solution in tetrahydrofuran and this was manufactured by the same process as for Diurit. Some details are also given of laboratory experiments on the effect of oxygen on vinylidene chloride and on the resulting polymer. Copolymers have been produced on a small scale with all available vinyl compounds, but for general extrusion, Diurit has proved to be most satisfactory.

* PB L 81618. BRIGHTON, C. A. and others. Polyurethanes. Interrogation of Dr. Otto Bayer (I. G. Farbenindustrie, Leverkusen). (BIOS Final Rept 1497, Item 22; Interrogation Rept 542) Jul 1946. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
The questions submitted at this interrogation were intended to supplement the information given in the two published reports of lectures given by Dr. Bayer in 1941 before the Technische Ausschuss der I. G. Farbenindustrie (see CIOS Rept. No. XXIL-12; PB 1812, v. 1, p. 104). Information given by Dr. Bayer in this interview was on the following: starting materials, preparation and properties of polyureas, linear polyurethanes, reaction of isocyanates with cellulose, processing of igamid U, polyurethane lacquers, polyurethane-linseed oil, desmophen-desmodur varnishes, foam masses, cementing of buna, and leather processing.

* PB L 81276. DUNLOP, R. D. Manufacture of phenol formaldehyde resins and molding powders. (FIAT Final Rept 1077) Apr 1947. 75 p. Price: Mimeo-$2.00
This report should not be considered complete in itself; the phenolic resin industry is too complex to allow that, nor was it possible to visit all producers, as a comparison of appendix 2, and appendix 4 will show. Nevertheless, it is considered that the detail presented is sufficient to support the general conclusions presented. The report consists of three parts: Part I. Summary - an attempt is made to summarize the practices in this complex industry; Part II. Detailed description of processes - here, as factually as possible, the information regarding the practices of the various producers is recorded; Part III. Appendices and drawings - pressure conditions less than one atmosphere are given in millimeters of mercury. Numbers in parenthesis in text refer to bibliography. A series of drawings is attached to the report.

PB L 80816. WADE, WORTH. Dryer used on urea molding materials. Memorandum report. May 1947. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report describes and illustrates by the use of four photographs the drying of a wet mass of urea formaldehyde impregnated pulp fibers by use of a Büttner "Turbo Dryer."

## Inorganic Chemicals

* PB L 80384. KELLER, J. L. Production of inorganic phosphate salts at Bayerische Stickstoffwerke A.G., Pi-

esterits, Germany. (FIAT Final Rept 1194). Jun 1947. 8 p. Price: Mimeo-$0.25
This plant produced five inorganic phosphate salts by neutralization of the phosphoric acid made in the plant with sodium hydroxide. The production of four of these, sodium acid pyrophosphate, sodium neutral pyrophosphate, disodium phosphate crystals, and trisodium phosphate crystals offered no new or unusual features. The production of the fifth, sodium hexametaphosphate, although it was only in the pilot plant stage, presented a number of interesting details which are described.

*PB L 79444. LAWRENCE, J. and others. Henkel, Duesseldorf. Sodium perborate and sodium percarbonate. (BIOS Final Rept 1367, Item 22). Feb 1946. 43 p. Price: Microfilm-$1.00 - Photostat-$3.00
Two processes were in use at this plant for the production of sodium perborate. The electrolytic process consited in electrolyzing an alkaline solution of sodium borate and separating the precipitated sodium perborate. Drawings illustrate the cell, electrode assembly, and TV drier. A flowdiagram is also presented. Production was 2500 - 3000 tons per year, borax efficiency, 98-99%. The chemical process depended on the reaction of hydrogen peroxide and borax in alkaline solution solution and the separation of the precipitated sodium perborate. Production was 2500 - 3000 tons per year, borax efficiency, 97%. Sodium percarbonate was made by the reaction of hydrogen peroxide with soda ash and salting out the resultant percarbonate. Capacity was 180 tons per month, the efficiency based on hydrogen peroxide, 88.5%. The report describes plant and process in all three manufactures. Also given are raw material and labor requirements, costs, efficiencies, and analyses.

* PB L 81278. HILL, FREDERICK and LARGENT, RAYMOND. Soda ash manufacture in southern and western Germany. (FIAT Final Rept 1074) Apr 1947. 51 p. Price: Mimeo-$1.50
A survey of the German soda ash industry supplementing previous reports on the subject, with emphasis on operating practices, plant capacities, and technical performances; contains drawings of typical equipment, operating and manufacturing cost data. Four of the six plants visited were producing at rates well below capacity. The German plants are relatively old and show little evidence of recent intensive research. Product quality is somewhat inferior to American standards. Additional information on waste heat recovery, filtration and feeding driers is included.

*PB L 79443. TONGUE, R. G. Sodium bichromate production. (BIOS Final Rept 1393, Item 22). n. d. 12 p. Price: Microfilm-$1.00 - Photostat-$1.00
The plant and processes for the manufacture of sodium bichromate were examined at I. G. Farbenindustrie, Uerdingen, where Dr. Dilthay was questioned. This plant used the carbon dioxide method of converting chromate to bichromate. The production of crystals was 33 tons a day maximum. In practice, only part of the sodium bichromate was converted to crystals, the rest being used to make potassium bichromate and other products. Table 1 gives operating data for a typical day's production. Diagram 1 is a flowdiagram. The firm of Zahn and Co., Chemical Engineers, Berlin, was visited and certain drawings of plant for the production of sodium bichromate examined. The sulfuric acid method for the conversion of chromate to bichromate was used. The present report discusses certain plant drawings which have been removed from both Zahn and Co. and I. G. Uerdingen, but these have not been included in the report.

* PB L 81093. WOOD, W. S. Hydrogen peroxide: Summary of investigations carried out at Leverkusen on synthetic methods I. G. Farbenindustrie. (BIOS Final Rept 1414, Item 22) Jun 1947. 32 p. Price: Microfilm-$1.00 - Photostat-$3.00
The three methods investigated and covered in this report were: (a) silent electric discharge, (b) cathodic reduction of oxygen, and (c) thermal process, by burning hydrogen and passing the products of combustion through a water spray.



PB L 63778-S. ANORGANA G.M.B.H., GENDORF, GERMANY. Acetylene generation, dry method, flow sheets and drawings. (Supp to FIAT Final Rept 969, PB 63778) (FIAT MC 543, c, d, n, o, p) 1942-1946. 73 p. Price: Microfilm-$2.00 - Photostat-$5.00
These drawings are a supplement to a report on "Acetylene generation, dry method" by Kammermeyer and Carpenter (see Bibliography, v. 5, p. 663, PB 63778).

* PB L 80408. BOWEN, C. E. The electro-chemical industry. (BIOS Final Rept 1301, Item 22). Jul 1946. 59 p. Price: Microfilm-$2.00 - Photostat-$4.00
A description of alkali-chlorine plants of: (A) I. G. Farbenindustrie, 1. Gendorf, 2. Ludwigshafen, 3. Leverkusen; (B) Alexander Wacker G.M.B.H., Burghausen; (C) Feldemuhle A. G., Lulsdorf, Cologne; (D) Chemische Werke, Huls and the water electrolysis plants of I. G. Farbenindustrie, Gendorf; Siemens-Halske, Erlangen, Nuremberg; F. Korver. Hydraulic G.M.B.H., Duisberg, and Druckzersetzer G.M.B.H., Wanne Eikel. Photographs and drawings appear throughout the report. List of drawings with references is attached.

PB L 80858. COMINGS, E. W. and others. I. High velocity vaporisers. n. d. 12 p. Price: Microfilm-$1.00 - Photostat-$1.00
A method of vaporizing relatively high boiling or thermally unstable liquids into a hot gas stream is described. The liquid under low pressure is introduced as a simple jet into a high velocity hot gas stream. The liquid is thus atomized to drops less than 100 $\mu$ in diameter and very high rates of heat transfer to the liquid and vaporization of the liquid are obtained. A venturi tube is a useful design for obtaining the high velocity. The hot gas is cooled rapidly and the time exposure of the liquid to a high temperature is very short, of the order of a few milliseconds. University of Illinois.

* PB L 81092. HULLAND, H. L. and others. Hydrogen peroxide plant at Bad Lauterberg. Interrogation of Dr. W. Fleming. (BIOS Final Rept 1381, Item 22; Interrogation Rept 496) Nov 1946. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a report resulting from an interrogation of Dr. Fleming who is a chemical engineer. The report is in two parts. Part I - a discussion centered on the points upon CIOS Report XXIII-18 and Part II - 30-35% hydrogen peroxide based upon CIOS Report XXIII-18.

PB L 80859. LEWIS, H. C. and others. II. The atomization of liquids in high velocity gas streams. n. d. 41 p. Price: Microfilm-$1.00 - Photostat-$3.00
Attention is called to the general usefulness, for purposes of design and control of gas-atomizating and liquid spray nozzles, of the empirical equations published by Nukiyama and Tanasawa. The mathematics of the equations is discussed, and it is shown that drop size distribution data can be expressed in terms of a simple straight line relationship. In the case of liquid spray nozzles, the agreement of the equations is more qualitative. In the case of gas-atomizing nozzles analysis of the data in the literature reveals substantial agreement with the equations. Experiments on gas-atomizing nozzles are described. These corroborate and extend the work of Nukiyama and Tanasawa and give an indication of the effects of gas density, gas viscosity, heat transfer from gas to liquid, and the scale of the apparatus on the performance of gas-atomizing nozzles. Tables and graphs are attached. University of Illinois.

PB L 77802. RIEDHAMMER, L. Description of tunnel furnaces. (With drawings). (FIAT Repts M 117 - M 119, Incl.). Feb, Jun 1941-Dec 1946. 14 p. Price: Microfilm-$1.00 - Photostat-$1.00
The construction, operation and performance of gas operated tunnel furnaces are described. A specified list of furnaces

installed by the above company is given. The report dates from 1941. Two tables with colored drawings are attached. In German.

## Miscellaneous Chemicals

*PB L 47773-S. FROMHOLZ, STANLEY A. Urea manufacture at the I. G. Farbenindustrie plant, Oppau. (Supplement to PB 47773). (FIAT Final Rept 889, Supp). n. d. 5 p. Mimeo-25¢.
This document is a supplement to the report by Dewling and Robell (see Bibliography vol 3, p 704). It furnishes additional information on 17 questions which were raised in the study of the earlier report.

* PB L 81826. FULLER, D. L. and others. Manufacture and purification of arc acetylene. (FIAT Final Rept 921) Jun 1947. 134 p. Price: Mimeo-$3.50
Hydrocarbon gases are partially converted to acetylene in an electric arc. The crude product gas is first purified by cyclone separators, bag filters, by oil, and finally by water scrubbing. The acetylenes present are then concentrated by solution in water under pressure. The higher acetylenes in this concentrate are then separated from acetylene itself by cooling in stages to -76° C. and the acetylene free gas is separated into its components in a Linde plant. Bibliography, tables and flow sheets appear in the appendices.

* PB L 81539. HILL, A. and HALE, D. K. Manufacture and applications of polyvinyl alcohol. (BIOS Final Rept 1418, Item 22) Oct-Nov 1945. 38 p. Price: Microfilm-$1.75 - Photostat-$4.00
During the investigation it was decided to start at the manufacture of the polyvinyl acetates from which the various polyvinyl alcohols are made. The manufacture of vinyl acetate monomer had previously been investigated on a number of occasions, see, for example, FIAT Final Rept. No. 860 (PB 44673, v. 4, p. 571, this Bibliography) and BIOS Final Rept. No. 745 (PB 52878, v. 5, p. 666). No investigation was made of the manufacture and applications of other vinyl acetate polymers, e. g. polyvinyl acetate dispersions. Thus, while the manufacture of certain polyvinyl acetates is described, it should be understood that such description is not by any means exhaustive and is only incidental to the manufacture of polyvinyl alcohols. The information obtained is presented under three main headings: (a) manufacture at Hoechst, (b) manufacture at Burghausen, and (c) applications. At Hoechst the polyvinyl alcohols were known by the trade name "Vinarol" and the acetates as "Mowilith" while at Burghausen the alcohols were called "Polyviol" and the acetates "Vinnapas." Diagrams and photographs are attached.

PB L 74709. I. G. FARBENINDUSTRIE A. G., LUDWIGSHAFEN, GERMANY. Laboratory reports and operating instructions. (FIAT Microfilm Reel M 142, Frames 1247-1846) 1931-1946. 402 f. Price: Microfilm-$5.00 - Enlargement print-$40.50
This FIAT microfilm reel consists of 47 items in the field of organic chemistry. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 1247-1256 PB L 74709 | Simultaneous determination of formic acid, acetic acid, propionic acid, and butyric acid in aqueous solutions. By Leithe. 1943. In German. | $1.50 |
| 1257-1261 PB L 74709 | Oxidimetric determination of oxygen in gases. By Leithe. 1943. In German. | 1.50 |
| 1262-1268 PB L 74709 | A new method of determining diglycol in triglycol. 1943. In German. | 1.50 |
| 1269 PB L 74709 | Determination of the calcium oxide content of sodium chloride solutions. In German. | 1.50 |
| 1270-1297 PB L 74709 | Review of the methods for determining olefin. By Eckhardt. 1943. In German. | 3.00 |
| 1298-1301 PB L 74709 | Analysis of technical chrome zinc products. 1944. In German. | 1.50 |
| 1302-1303 PB L 74709 | Application of hydroxyquinoline in analytical chemistry. 1944. In German. | 1.50 |
| 1304-1306 PB L 74709 | Report on the verification of a rapid quantitative analytical method developed by Dr. Zabel, Textile Dyeing at Wolfen. By Vogel. 1944. In German. | 1.50 |
| 1307-1310 PB L 74709 | Colorimetric analysis of o-phthalic acid in mixtures of benzoic acid and phthalic acid, by means of the phenolphthaleine reaction. 1944. In German. | 1.50 |
| 1311-1313 PB L 74709 | Polarographic determination of o-phthalic acid in mixtures of benzoic acid and phthalic acid. By Krauss. 1944. In German. | 1.50 |
| 1314-1317 PB L 74709 | Permanganate number of recycled oil. 1944. In German. | 1.50 |
| 1318-1346 PB L 74709 | Experience with the simultaneous determination of aldehydes and ketones. By Eckhardt. 1944. In German. | 3.00 |
| 1347-1353 PB L 74709 | Device for the automatic continuous feeding of a liquid from a storage container into a vessel. 1943. In German. | 1.50 |
| 1354-1363 PB L 74709 | Application of wofatites in analytical chemistry. By Sütterlin. 1943. In German. | 1.50 |
| 1364-1370 PB L 74709 | On the steam pressure curve of adipic acid. By Rast. 1943. In German. | 1.50 |
| 1371-1406 PB L 74709 | The physicochemical basis of extinction spectrography and its application in long-wave ultraviolet and in visible light. By Rast. 1942. In German. | 4.00 |
| 1407-1424 PB L 74709 | The ultraviolet spectroscopy as an aid for analyzing simple organic substances and understanding their constitution. By Eckhardt. 1942. In German. | 2.00 |
| 1425-1435 PB L 74709 | Determination of traces of $SO_2$ for air analysis in the open. By Seifferheld and others. 1943. In German. | 1.50 |
| 1436-1444 PB L 74709 | Methods of rapid determination of lead tetraethyl in aviation fuels. By Jahr and Koller. In German. | 1.50 |
| 1445-1448 PB L 74709 | Colorimetric determination of the iron content of nickel. 1943. In German. | 1.50 |
| 1449-1451 PB L 74709 | Colorimetric determination of the manganese content of nickel. By Schaefer. 1943. In German. | 1.50 |
| 1452-1463 PB L 74709 | Colorimetric process for the determination of sulfur in steel, using the photoelectric | |

colorimeter according to Dr. B. Lange. By Pohl. In German. 1.50

1464-1465 PB L 74709 Directions for photometric determination of magnesium in aluminum alloys in the presence of Cu, Mn, Ni, Zn, Fe, and Si. By Wulff. In German. 1.50

1466-1493 PB L 74709 The photometric determination of magnesium in aluminum alloys. By Wulff. In German. 3.00

1494-1498 PB L 74709 Quantitative analysis of aluminum by means of oxin. 1934. In German. 1.50

1499-1501 PB L 74709 Preparation of solutions of titanium sulfate ($Ti_2(SO_4)_3$). 1931. In German. 1.50

1502-1507 PB L 74709 Investigations on the analysis of perchlorate, chlorate and of mixtures of these compounds by means of titanium sulfate ($Ti_2(SO_4)_3$). 1931. In German. 1.50

1508-1533 PB L 74709 Experiments for the preparation of beta-naphthylamine from beta-naphthol and ammonia, and preliminary calculations. By Huttner. 1933. In German. 3.00

1534-1538 PB L 74709 Catalytic N-alkylation with ethyl ether and higher ethers. By Andrussow and Germann. 1934. In German. 1.50

1539-1543 PB L 74709 The alkylation of aromatic amines. By Speer. 1935. In German. 1.50

1544-1547 PB L 74709 The metal bomb tube, a practical laboratory appliance. By Fleming. 1933. In German. 1.50

1548-1552 PB L 74709 Tetrachlorophthalic acid, an aid for identifying aromatic amines, particularly primary ones. By Fleming. 1933. In German. 1.50

1553-1573 PB L 74709 The solubility of carbon dioxide, sulfur dioxide and hydrogen sulfide in organic liquids. By Peiler. 1936. In German. 2.50

1574-1595 PB L 74709 Continuous preparation of adipic acid from cyclohexanol and nitric acid. By Heinze. 1942. In German. 2.50

1596-1614 PB L 74709 Continuous production of succinic acid from tetrahydrofuran and nitric acid. By Heinze. 1942. In German. 2.00

1615-1645 PB L 74709 Preventing the attack of oxygen-free condensates upon ferrous materials by means of ammonia. By Wesley. 1941. In German. 3.50

1646-1656 PB L 74709 Preliminary report on the status of the process for the preparation of maleic anhydride from succinic anhydride by chlorination. By Alt. 1940. In German. 1.50

1657-1658 PB L 74709 Continuous process for the preparation of beta-decalol by hydrogenation of beta-naphthol. By Schuster and König. 1940. In German. 1.50

1659-1663 PB L 74709 Continuous hydrogenation. 1940. In German. 1.50

1664-1672 PB L 74709 Catalytic hydrogenation of free fatty acids to form the corresponding alcohols. 1941. In German. 1.50

1673-1677 PB L 74709 Sulfonation of alcohols obtained by oxidation of paraffin from Baton Rouge. 1933. In German. 1.50

1678-1688 PB L 74709 The energy factor in the formation of "Mepasin" sulfochloride from "Mepasin," sulfur dioxide and hydrogen chloride. By Hecht. 1939. In German. 1.50

1689-1699 PB L 74709 Condensation products from ammonia salts, formaldehyde and organic compounds with reactive H-atoms, and possibilities of their use. By Armbruster and Krzikalla. 1938. In German. 1.50

1700-1714 PB L 74709 Report on the continuous hydrogenation of adipodinitrile at Lu 115. By Bauer. 1941. In German. 1.50

1715-1740 PB L 74709 Operating instructions for "Igevins." In German. 3.00

1741-1800 PB L 74709 Operating instructions for the preparation of emulsions, dispersions, and solutions of plastics. By Hambsch. 1946. In German. 6.00

1801-1846 PB L 74709 Operating instructions for the products made in the Palatinol plant. By Hambsch. 1946. In German. 5.00

PB L 17654. I. G. FARBENINDUSTRIE A. G. Manufacturing processes of aliphatic intermediates and other organic compounds. (FIAT Microfilm Reel C 67, Frames 1-968) Jan 1946. 1132 f. Prices: Microfilm-$6.00 - Enlargement print-$113.50.

The items on this reel are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| PB Numbers Frames | Title | Price |
|---|---|---|
| L 47336 Frames 1-39 | Aldol. In German. | $ 4.00 |
| L 47337 Frames 40-47 | Acetaldol. In German. | 1.50 |
| L 47338 Frames 48-95 | Ethylacetate (including pressure distillation). In German. | 5.00 |
| L 47339 Frames 96-107 | 2-Ethyl-1,3-hexanediol. In German. | 1.50 |
| L 47340 Frames 108-179 | Ether. In German. | 7.50 |
| L 47341 Frame 180 | Methylester of acetylglycolic acid. In German. | 1.50 |
| L 47342 Frames 181-182 | Ethyl ester of ethylglycolic acid. In German. | 1.50 |
| L 47343 Frame 183 | Butylester of acetylglycolic acid. In German. | 1.50 |
| L 47344 Frame 184 | Benzylester of acetylglycolic acid. In German. | 1.50 |

Miscellaneous Chemicals (contd)

| | | |
|---|---|---|
| L 47345 Frames 185-189 | Borofluoride acetic acid. In German. | 1.50 |
| L 47346 Frames 190-196 | Butyric acid. In German. | 1.50 |
| L 47347 Frames 197-198 | n-butyric anhydride. In German. | 1.50 |
| L 47348 Frames 199-200 | 1,3-Butyleneglycolformal. In German. | 1.50 |
| L 47349 Frames 201-207 | Butylbutyrate. In German. | 1.50 |
| L 47350 Frames 208-219 | Butanol. In German. | 1.50 |
| L 47351 Frames 220-267 | Butylacetate. In German. | 5.00 |
| L 47352 Frames 268-292 | 1,3-Butyleneglycol. In German. | 2.50 |
| L 47353 Frames 293-296 | Butoxyl. In German. | 1.50 |
| L 47354 Frames 297-312 | Sodium chloroethane sulfonate. In German. | 2.00 |
| L 47355 Frames 313-350 | Crotonaldehyde. In German. | 4.00 |
| L 47356 Frames 351-358 | Crotonic acid. In German. | 1.50 |
| L 47357 Frame 359 | Methylester of cyanoacetic acid. In German. | 1.50 |
| L 47358 Frames 360-362 | Ethylester of cyanoacetic acid. In German. | 1.50 |
| L 47359 Frame 363 | Butylester of cyanoacetic acid. In German. | 1.50 |
| L 47360 Frame 364 | Dimethyl cyclohexanol oxalate. In German. | 1.50 |
| L 47361 Frame 365 | Diglycol-di-isocaproic ester. In German. | 1.50 |
| L 47362 Frame 366 | Diglycol-di-isoheptylic ester. In German. | 1.50 |
| L 47363 Frames 367-428 | Acetic acid. In German. (Frame 400, missing. Several frames are poorly legible) | 6.50 |
| L 47364 Frames 429-432 | Acetic anhydride. In German. | 1.50 |
| L 47365 Frames 433-434 | Antifreeze HS 2239. In German. | 1.50 |
| L 47366 Frame 435 | n-butyl ester of glycolic acid. In German. | 1.50 |
| L 47367 Frames 436-438 | Methoxybutylester of glycolic acid. In German. (May reproduce poorly.) | 1.50 |
| L 47368 Frames 439-449 | Glycoformal. In German. (Frame 447, missing. Poorly legible in parts) | 1.50 |
| L 47369 Frames 450-451 | Methylester of glycolic acid. In German. | 1.50 |
| L 47370 Frames 452-453 | Ethylester of glycolic acid. In German. (May reproduce poorly.) | 1.50 |
| L 47371 Frame 454 | Butylester of glycolic acid. In German. | 1.50 |
| L 47372 Frame 455 | Isopropylester of glycolic acid. In German. | 1.50 |
| L 47373 Frame 456 | Ethylglycolester of glycolic acid. In German. | 1.50 |
| L 47374 Frame 457 | Ethylester of butyrylglycolic acid. In German. | 1.50 |
| L 47375 Frame 458 | Ethylester of methylglycolic acid. In German. | 1.50 |
| L 47376 Frame 459 | Isocotylester of glycolic acid. In German. | 1.50 |
| L 47377 Frames 460-479 | Isopropylalcohol. In German. | 2.00 |
| L 47378 Frames 480-481 | Isobutyric anhydride. In German. | 1.50 |
| L 47379 Frames 482-483 | Isobutoxy acetic acid. In German. | 1.50 |
| L 47380 Frames 484-485 | Ethylester of isovaleric acid. In German. | 1.50 |
| L 47381 Frames 486-487 | Isohexylacetate. In German. | 1.50 |
| L 47382 Frames 488-493 | Copper carbonate for copper catalysts. In German. | 1.50 |
| L 47383 Frames 494-509 | Methylacetate. In German. | 2.00 |
| L 47384 Frame 510 | Filling of tank cars. In German. | 1.50 |
| L 47385 Frames 511-521 | Methoxy butyraldehyde (aldol-ether). In German. | 1.50 |
| L 47386 Frames 522-526 | Lactic acid ethylester. In German. | 1.50 |
| L 47387 Frames 527-531 | Lactic acid butylester. In German. | 1.50 |
| L 47388 Frames 532-533 | Methylglycolformal. In German. | 1.50 |

Miscellaneous Chemicals (contd)

L 47389 Frames 534-547 — Sodium acetate. In German. 1.50

L 47390 Frames 548-549 — "Necsolvan P." In German. 1.50

L 47391 Frames 550-573 — Hydroxy ethane sodium sulfonate. In German.

L 47392 Frames 574-575 — Calcining oxalic acid. In German. 1.50

L 47393 Frames 576-592 — Diethyloxalate. In German. 2.00

L 47394 Frame 593 — Butyloleate. In German. 1.50

L 47395 Frames 594-614 — Polysolvan O. In German. 2.50

L 47396 Frame 615 — Polysolvan AO. In German. 1.50

L 47397 Frames 616-653 — Paraldehyde. In German. 4.00

L 47398 Frames 654-655 — n-Propylacetate. In German. 1.50

L 47399 Frames 656-659 — Propionic anhydride. In German. 1.50

L 47400 Frames 660-664 — Pyranton A. In German. 1.50

L 47401 Frames 665-670 — Ethanol; butanol. In German. 1.50

L 47402 Frame 671 — Butylester of train-oil fatty acids. In German. 1.50

L 47403 Frames 672-710 — Vinylacetate. In German. (Poor legibility) 4.00

L 47404 Frames 711-714 — Vinylchloroacetate. In German. 1.50

L 47405 Frames 715-716 — Methyltaurines. In German. 1.50

L 47406 Frames 717-723 — Methyltaurine. In German. 1.50

L 47407 Frames 724-725 — Ethyluresin. In German. 1.50

L 47408 Frames 726-732 — Glyzerogen. In German. 1.50

L 47409 Frames 733-735 — "Polysolvan E." in German. 1.50

L 47410 Frames 736-740 — Taurine-ditaurine (separation of). In German. 1.50

L 47411 Frames 741-747 — Sarcosine. In German. 1.50

L 47412 Frames 748-749 — Isoheptyl acetate. In German. 1.50

L 47413 Frames 750-752 — Acetonitrile. In German. 1.50

L 47414 Frames 753-761 — Diglycolic acid. In German. 1.50

L 47415 Frames 762-778 — Nickel catalyst for glyzerogen. In German. 2.00

L 47416 Frame 779 — Cerium catalyst. In German. 1.50

L 47417 Frame 780 — Zinc manganese catalyst. In German. 1.50

L 47418 Frame 781 — Methyl formate. In German. 1.50

L 47419 Frames 782-784 — Ethylformate. In German. 1.50

L 47420 Frame 785 — n-Propylformate. In German. 1.50

L 47421 Frame 786 — n-Butylformate. In German. 1.50

L 47422 Frames 787-788 — Amylformate. In German. 1.50

L 47423 Frames 789-792 — "Albanol." In German. 1.50

L 47424 Frame 793 — "Launa-oil" ester of acetyl-glycolic acid. In German. 1.50

L 47425 Frame 794 — Amylalcohol from "sulfite oil." In German. 1.50

L 47426 Frame 795 — Amylalcohol from fusel oil. In German. 1.50

L 47427 Frames 796-800 — Isobutylacetate. In German. 1.50

L 47428 Frames 801-804 — Oxiol. In German. 1.50

L 47429 Frames 805-807 — "Dissolvan." In German. 1.50

L 47430 Frames 808-809 — Butyleneglycoldiacetate. In German. 1.50

L 47431 Frames 810-817 — Acetylacetone. In German. 1.50

L 47432 Frames 818-819 — Aethylpropionate. In German. 1.50

Miscellaneous Chemicals (contd)

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|---|---|---|
| L 47433 Frames 820-821 | Amylbutyrate. In German. | 1.50 |
| L 47434 Frames 822-823 | Methyl and ethylester of ethyl-glycolic acid. In German. | 1.50 |
| L 47435 Frame 824 | Isopropylester of acetylglycolic acid. In German. | 1.50 |
| L 47436 Frame 825 | n-propylester of acetylglycolic acid. In German. | 1.50 |
| L 47437 Frames 826-827 | Amylpropionate. In German. | 1.50 |
| L 47438 Frames 828-829 | Benzylurethane. In German. | 1.50 |
| L 47439 Frames 830-839 | Butylurethane, cyclohexanslure-thane, isobutanolurethane, iso-butylmethane and n-butylurethane. In German. | 1.50 |
| L 47440 Frames 840-841 | Butoxy acetic acid. In German. | 1.50 |
| L 47441 Frame 842 | Butoxybutanol diglycolate. In German. | 1.50 |
| L 47442 Frame 843 | Butylester of butoxy acetic acid. In German. | 1.50 |
| L 47443 Frame 844 | 1,3-Butyleneglycol-mono-glycolate. In German. | 1.50 |
| L 47444 Frame 845 | Calcium butyrate. In German. | 1.50 |
| L 47445 Frames 846-849 | 1,3-Butyleneglycol monoacetate. In German. | 1.50 |
| L 47446 Frame 850 | Litmus solution (to test neutrality of esters). In German. | 1.50 |
| L 47447 Frame 851 | Benzylbutyrate. In German. | 1.50 |
| L 47448 Frames 852-853 | Butyric acid ( technically pure). In German. | 1.50 |
| L 47449 Frame 854 | Butyric acid (distilled twice). In German. | 1.50 |
| L 47450 Frame 855 | Butyric acid (chem. pure). In German. | 1.50 |
| L 47451 Frame 856 | Methylester of butyric acid. In German. | 1.50 |
| L 47452 Frame 857 | Benzylacetate. In German. | 1.50 |
| L 47453 Frame 858 | Ethylester of butyric acid. In German. | 1.50 |
| L 47454 Frame 859 | 1,3-Butyleneglycol-di-n-butyrate. In German. | 1.50 |
| L 47455 Frame 860 | 1,3-Butyleneglycol-mono-n-butyrate. In German. | 1.50 |
| L 47456 Frames 861-863 | Benzylalcohol and benzylether. In German. (Frame 862 is missing). | 1.50 |
| L 47457 Frame 864 | Dibenzylether. In German. | 1.50 |
| L 47458 Frame 865 | n-Butylpropionate. In German. | 1.50 |
| L 47459 Frames 866-869 | Di-thio-di-butyleneglycol. In German. | 1.50 |
| L 47460 Frames 870-871 | Roharotonsäure processing of crude crotonic acid. In German. | 1.50 |
| L 47461 Frames 872-873A | Chloressigsäures sodium chloro-acetate. In German. | 1.50 |
| L 47462 Frames 874-875 | Dicyclohexanol oxalate. In German. | 1.50 |
| L 47463 Frame 876 | Calcium acetate in solution. In German. | 1.50 |
| L 47464 Frame 877 | "Leuna-oil" ester of chloro-acetic acid. In German. | 1.50 |
| L 47465 Frame 878 | Cobalt crotonate. In German. | 1.50 |
| L 47466 Frame 879 | Manganese crotonate. In German. | 1.50 |
| L 47467 Frame 880 | Lead crotonate. In German. | 1.50 |
| L 47468 Frame 881 | Anhydride of coconut oil fatty acids. In German. | 1.50 |
| L 47469 Frame 882 | β-chlorobutyric acid. In German. | 1.50 |
| L 47470 Frame 883 | Ethylester of β-chlorobutyric acid. In German. | 1.50 |
| L 47471 Frame 884 | Propylester of crotonic acid. In German. | 1.50 |
| L 47472 Frame 885 | Butylester of crotonic acid. In German. | 1.50 |
| L 47473 Frames 886-887 | Ethylester of crotonic acid. In German. | 1.50 |
| L 47474 Frame 888 | Methylester of crotonic acid. In German. | 1.50 |
| L 47475 Frame 889 | Dicyclohexanol phtalate. In German. | 1.50 |
| L 47476 Frames 890-891 | Dibutol-polybutol-dibutol techn. In German. | 1.50 |



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Miscellaneous Chemicals (contd)

L 47477 Frames 892-893 — Polytutyleneglycol. In German. 1.50

L 47478 Frame 894 — Dimethyl oxamide. In German. 1.50

L 47479 Frame 895 — Diglycolsäure-Di-isoheptylester of diglycolic acid. In German. 1.50

L 47480 Frame 896 — Diglycolsäure-DI-isohexylester of diglycolic acid. In German. 1.50

L 47481 Frame 897 — "Leuna-oil" ester of diglycolic acid. In German. 1.50

L 47482 Frame 898 — Diisooctylester of diglycolic acid. In German. 1.50

L 47483 Frames 899-900 — "Dissolvan." In German. 1.50

L 47484 Frame 901 — Dimethylester of diglycolic acid. In German. 1.50

L 47485 Frame 902 — Diethylester of diglycolic acid. In German. 1.50

L 47486 Frame 903 — Dipropylketone. In German. 1.50

L 47487 Frame 904 — "Palmkernfettamin"-Chlorhydrate. In German. (Partly illegible). 1.50

L 47488 Frame 905 — Diglycolsäure-Amylester of diglycolic acid. In German. 1.50

L 47489 Frame 906 — Diglycolsäure-Di-butylester of diglycolic acid. In German. 1.50

L 47490 Frame 907 — Dimethylacetal. In German. 1.50

L 47491 Frames 908-911 — Dipropionylmethane. In German. 1.50

L 47492 Frame 912 — Dichloroethyl acetate. In German. 1.50

L 47493 Frame 913 — Vinegar aroma. In German. 1.50

L 47494 Frame 914 — Isoheptylester of glycolic acid. In German. 1.50

L 47495 Frame 915 — Isohexylester of glycolic acid. In German. 1.50

L 47496 Frame 916 — Glycerine tricrotonate. In German. 1.50

L 47497 Frames 917-923 — Glycolic acid in solution. In German. 1.50

L 47498 Frame 924 — Glycolic acid, crystallized. In German. 1.50

L 47499 Frame 925 — Glycerol-tri-chloracetic ester. In German. 1.50

L 47500 Frames 926-927 — Hexane triol-di-acetate. In German. 1.50

L 47501 Frame 928 — Glycolsäures sodium glycolate. In German. 1.50

L 47502 Frame 929 — Calcium glycolate. In German. 1.50

L 47503 Frame 930 — Glycerol tripropionate. In German. 1.50

L 47504 Frame 931 — n-Butylester of isobutyric acid. In German. 1.50

L 47505 Frame 932 — Isobuttersäure-Iso-butylester of isobutyric acid. In German. 1.50

L 47506 Frames 933-936 — Isoheptyl acetate. In German. 1.50

L 47507 Frames 937-944 — Isopropyl acetate. In German. 1.50

L 47508 Frames 945-949 — Crude isobutyric acid. In German. 1.50

L 47509 Frame 950 — Isobutyric acid, technically pure. In German. 1.50

L 47510 Frames 951-952 — Isobutyric acid, chem. pure. In German. 1.50

L 47511 Frame 953 — Isobutylpropionate. In German. 1.50

L 47512 Frame 954 — Isobutyl-n-butyrate. In German. 1.50

L 47513 Frame 955 — Isopropyl-n-butyrate. In German. 1.50

L 47514 Frames 956-958 — "Leuna-oil" propionate. In German. 1.50

L 47515 Frame 959 — Methylcyclohexanol oxalate. In German. 1.50

L 47516 Frame 960 — Isobutylester of monochlor-acetic acid. In German. 1.50

L 47517 Frame 961 — Methylal. In German. 1.50

L 47518 Frame 962 — Methylester of methoxy acetic acid. In German. 1.50

L 47519 Frame 963 — Methoxybutanoldiglycolate. In German. 1.50

L 47520 Frame 964 — Methoxybutanol ester of palmitic acid. In German. 1.50

Miscellaneous Chemicals (contd)

L 47521 Frame 965 — Methoxybutanol ester of coconut fatty acids. In German. 1.50

L 47522 Frame 966 — Methoxybutanol ester of stearic acid. In German. 1.50

L 47523 Frames 967-968 — Methoxy acetic acid. In German. 1.50

L 47336 — Manufacturing processes of aliphatic intermediates and other organic compounds: Index. In German and English. 1.50

PB L 17655. I. G. FARBENINDUSTRIE A. G. Manufacturing processes of aliphatic intermediates and other organic compounds. (FIAT Microfilm Reel C 58, Frames 969-1431) Jan 1946. 522 f. Price: Microfilm-$6.00--Enlargement print-$52.50.
The items on this reel are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| PB Numbers Frames | Title | Price |
|---|---|---|
| L 50072 Frame 969 | Methylester of methylglycolic acid. In German. | $ 1.00 |
| L 50071 Frame 970 | Benzylester of monochloroacetic acid. In German. | 1.00 |
| L 50070 Frame 971 | Mono-glycerolester of lactic acid. In German. | 1.00 |
| L 50019 Frame 972 | Fermentation lactic acid. In German. | 1.00 |
| L 50018 Frames 973-976 | Methoxybutanol. In German. | 1.00 |
| L 50017 Frame 977 | Isopropylester of lactic acid. In German. | 1.00 |
| L 50016 Frames 978 | Methylester of lactic acid. In German. | 1.00 |
| L 50015 Frame 979 | Propylester of lactic acid. In German. | 1.00 |
| L 50014 Frame 980 | n-Propylester of monochloroacetic acid. In German. | 1.00 |
| L 50013 Frames 981-982 | Monochloressigsaure-Iso-Propylester of monochloroacetic acid. In German. | 1.00 |
| L 50012 Frame 983 | Methylpropionate. In German. | 1.00 |
| L 50011 Frames 984-985 | Isobutylester of lactic acid. In German. | 1.00 |
| L 50010 Frame 986 | Butylester of monochloroacetic acid. In German. | 1.00 |
| L 50009 Frames 987-988 | Ethylester of monochloroacetic acid. In German. | 1.00 |
| L 50008 Frame 989 | Methylester of monochloroacetic acid. In German. | 1.00 |
| L 50007 Frame 990 | Amylester of lactic acid. In German. | 1.00 |
| L 50006 Frames 991-994 | "Oxyacetal" (Bis(3-hydroxybutoxy)-(1-propionyl)-methane). In German. | 1.00 |
| L 50005 Frame 995 | Ethylglycolester of α hydroxy isobutyric acid. In German. | 1.00 |
| L 50004 Frame 996 | Butoxybutylester of oleic acid. In German. | 1.00 |
| L 50003 Frame 997 | Methoxybutylester of oleic acid. In German. | 1.00 |
| L 50002 Frames 998-999 | Methylester of oleic acid. In German. | 1.00 |
| L 50001 Frames 1000-1001 | Ethylester of oleic acid. In German. | 1.00 |
| L 50000 Frames 1002-1010 | Diethylester of oxalic acid. In German. | 1.00 |
| L 49999 Frame 1011 | Di-n-butylester of oxalic acid. In German. | 1.00 |
| L 49998 Frames 1012-1013 | Di-benzylester of oxalic acid. In German. | 1.00 |
| L 49997 Frames 1014-1016 | Di-methylester of oxalic acid. In German. | 1.00 |
| L 49996 Frames 1017-1018 | Propiophenone. Palatinol HS. In German. | 1.00 |
| L 49994 Frame 1019 | "Polysolvan SHS". In German. | 1.00 |
| L 49993 Frames 1020-1021 | "Polysolvan J". In German. | 1.00 |
| L 49992 Frame 1022 | "Polysolvan A". In German. | 1.00 |
| L 49991 Frames 1023-1025 | "Pg 1 St 2". In German. | 1.00 |
| L 49990 Frames 1026-1028 | "Pg 1 St 1". In German. | 1.00 |
| L 49989 Frame 1029 | Polyglycerol. In German. | 1.00 |
| L 49988 Frames 1030-1031 | Propionic acid. In German. | 1.00 |
| L 49973 Frame 1032 | Propionic acid, techn. pure. In German. | 1.00 |
| L 49972 Frame 1033 | Dibutylester of phtalic acid. In German. | 1.00 |

Miscellaneous Chemicals (contd)

| | | |
|---|---|---|
| L 49971 Frame 1034 | n-Propylpropionate. In German. | 1.00 |
| L 49970 Frame 1035 | Diamylester of phthalic acid. In German. | 1.00 |
| L 49969 Frame 1036 | n-Propyl-n-butyrate. In German. | 1.00 |
| L 49968 Frame 1037 | n-Propylformate. In German. | 1.00 |
| L 49967 Frame 1038 | Resorcind diacetate. In German. | 1.00 |
| L 49966 Frame 1039 | Butylester of soybean oil fatty acid. In German. | 1.00 |
| L 49965 Frame 1040 | Salicylsäure-n-Butylester of salicylic acid. In German. | 1.00 |
| L 49964 Frame 1041 | Salicylsäure-Ethylester of salicylic acid. In German. | 1.00 |
| L 49963 Frames 1042-1044 | "Stabilisal A". In German. | 1.00 |
| L 49962 Frames 1045-1046 | "Leuna-oil" ester of stearic acid. In German. | 1.00 |
| L 49961 Frame 1047 | Stearic anhydride. In German. | 1.00 |
| L 49960 Frame 1048 | "Tamasol L 1". In German. | 1.00 |
| L 49959 Frame 1049 | "Tamasol L 2". In German. | 1.00 |
| L 49958 Frame 1050 | Glycerol tributyrin. In German. | 1.00 |
| L 49957 Frames 1051-1052 | "W 21" (Plasticizer). In German. | 1.00 |
| L 49956 Frames 1053-1054 | Dibutylester of tartaric acid. In German. | 1.00 |
| L 49955 Frame 1055 | Di-isopropylester of tartaric acid. In German. | 1.00 |
| L 49954 Frames 1056-1059 | Di-ethylester of tartaric acid, crude. In German. | 1.00 |
| L 49953 Frame 1060 | Di-ethylester of tartaric acid, pure. In German. | 1.00 |
| L 49952 Frame 1061 | n-Propylbutyrate. In German. | 1.00 |
| L 49951 Frame 1062 | Isobutylbutyrate. In German. | 1.00 |
| L 49950 Frame 1063 | Oxidation of benzylidene acetone to cinnamic acid. In German. | 1.00 |
| L 49949 Frame 1064 | Benzylidene acetone. In German. | 1.00 |
| L 49948 Frame 1065 | 1,2-ethanediol acetate. In German. | 1.00 |
| L 49947 Frames 1066-1071 | 1,3-Butylene glycol-di-urethane. In German. | 1.00 |
| L 49946 Frames 1072-1084- | n-Butyluresin ("Uresin B"). In German. | 1.00 |
| L 49945 Frame 1085 | Benzyluresin. In German. | 1.00 |
| L 49944 Frame 1086 | 1,3-Butylenglycol-benzylether. In German. | 1.00 |
| L 49943 Frame 1087 | Butyloxybutanol. In German. | 1.00 |
| L 49942 Frames 1088-1089 | Chlorobutanol. In German. | 1.00 |
| L 49941 Frame 1090 | 1,3-Butanediol-monolactate. In German. | 1.00 |
| L 49940 Frames 1091-1095 | 1,3-Butanediol-mono-methylether. In German. | 1.00 |
| L 49939 Frame 1096 | 1,3-Butanediol-mono-ethylether. In German. | 1.00 |
| L 49938 Frame 1097 | Dibutylether. In German. | 1.00 |
| L 49937 Frame 1098 | Ethylene oxamide. In German. | 1.00 |
| L 49936 Frames 1099-1100 | Triacetin. In German. | 1.00 |
| L 49935 Frame 1101 | Nickel carbonate on pumice powder. In German. | 1.00 |
| L 49934 Frame 1102 | Nickel nitrate. In German. | 1.00 |
| L 49933 Frame 1103 | Triglycol-di-iso-butyric ester. -"Gelaton 3". In German. | 1.00 |
| L 49932 Frame 1104 | Ethylidene-di-acetate. In German. | 1.00 |
| L 49931 1105-1107 | β-Chloro-propionyl chloride. In German. | 1.00 |
| L 49930 Frame 1108 | Hexitan-tetra-"Leuna" carboxylic ester. In German. | 1.00 |
| L 49929 Frames 1109-1110 | Hexitane-tetra-(fatty acid first runnings)-2-ester and toluene-2-carboxylic acid chloride. In German. | 1.00 |
| L 49928 Frame 1110-A | Plasticizer 1008. In German. | 1.00 |

Miscellaneous Chemicals (contd)

L 49927 Frame 1111 — Di-o-toluyl-peroxyde. In German. 1.00

L 49926 Frame 1112 — Plasticizer DU. In German. 1.00

L 49925 Frame 1113 — Plasticizer PA. In German. 1.00

L 49924 Frames 1114-1116 — Plasticizer W 21 (Butylene-glycol-urethane). In German. 1.00

L 49923 Frames 1117-1118 — Distillation of chloroprene for purification. In German. 1.00

L 49922 Frames 1119-1121 — Di-isoheptylester of camphoric acid. In German. 1.00

L 49921 Frames 1122-1123 — "Emulsion 70/30". In German. 1.00

L 49920 Frames 1124-1131 — "Appretan EDH". In German. 1.00

L 49919 Frames 1132-1134 — "Mowilith D 2". In German. 1.00

L 49918 Frames 1135-1136 — "Mowilith DV", about 50% In German. 1.00

L 49917 Frame 1137 — "Mowilith DV 32", about 58% In German. 1.00

L 49916 Frames 1138-1141 — "Mowilith D Type AB[1], about 60%. In German. 1.00

L 49915 Frames 1142-1143 — Polyvinylacetate emulsion without "Vinarol". In German. 1.00

L 49914 Frames 1144-1145 — "Emulsion AB 17". In German. 1.00

L 49913 Frames 1146-1147 — "Mowilith MP 850 D" ca. 60%. In German. 1.00

L 49912 Frames 1148-1170 — "Emulsion MV" and "MVW 32 u. 41" (Directions for producing softened "MV" emulsions). In German. 2.00

L 49911 Frames 1171-1172 — "Emulsion VW 84". In German. 1.00

L 49910 Frames 1173-1174 — "Mowlith H". In German. 1.00

L 49909 Frames 1175-1193 — "Mowlith 70" in pearl polymerized form. In German. 2.00

L 49908 Frames 1194-1196 — "Mowlith H, 115, HX" in blocks. In German. 1.00

L 49907 Frames 1197-1198 — "Mowlith", solid for Le. In German. 1.00

L 49906 Frames 1199-1201 — "Mowlith Ct. 10, Ct. and 2,5". In German. 1.00

L 49905 Frames 1202-1204 — "Mowlith 15" about 60% in ethyl-acetate. In German. 1.00

L 49904 Frames 1205-1209 — "Mowlith 20" about 60% in ethyl-acetate. In German. 1.00

L 49903 Frames 1210-1217 — "Mowlith 30" about 60%. In German. 1.00

L 49902 Frames 1218-1223 — "Mowlith ABC" about 70% in solvent mixture. In German. 1.00

L 49901 Frame 1224 — "Mowlith HL 50". In German. 1.00

L 49900 Frames 1225-1227 — "Mowlith H, 115, HX" in blocks. In German. 1.00
Duplicate of 49908

L 48999 Frames 1228-1230 — "Vinarol supra". In German. 1.00

L 49898 Frames 1231-1238 — "Vinarol HX". In German. 1.00

L 49897 Frames 1239-1243 — "Vinarol 70" about 7-8% solution. In German. 1.00

L 49896 Frame 1244 — Hydrolysis of "Mowlith O" to "Vinarol". In German. 1.00

L 49895 Frames 1245-1257 — "Vinarol HB", "H", "HX" and "BO conc." In German. 1.00

L 49894 Frames 1258-1260 — "Dentalhars" chlorobenzene solution. In German. 1.00

L 49893 Frames 1261-1272 — Interior lacquer 3X old. Readjustment. Camouflage-lacquer. In German. 1.00

L 49892 Frames 1273-1275 — Phenytal lacquer solution D. In German. 1.00

L 49891 Frames 1276-1306 — "Bakelite A" (Special resin H) and "Asplit" solutions. In German. 3.00

L 49890 Frames 1307-1308 — "Resin 3383". In German. 1.00

L 49889 Frames 1309-1310 — "Resin 3925". In German. 1.00

L 49888 Frames 1311-1316 — "Kunststoff 28840". In German. 1.00

L 49887 Frames 1317-1320 — Xylol-cresoticacid-resin. In German. 1.00

L 49886 Frames 1321-1328 — Paper glue B. In German. 1.00

L 49885 Frames 1329-1330 — "Binding agent W". In German. 1.00

L 49884 Frames 1331-1335 — Adhesive solution Ch. In German. 1.00

Miscellaneous Chemicals (contd)

L 49883 Frame 1336 — Addition agent for "Adhesive solution Ch." In German. 1.00

L 49882 Frames 1337-1340 — "Povinal BA". In German. 1.00

L 49881 Frames 1341-1343 — "Povinal C". In German. 1.00

L 49880 Frames 1344-1348 — "Povinal St". In German. 1.00

L 49879 Frames 1349-1361 — "Povinal St- and St L" (ammonium salt solution). In German. 1.00

L 49878 Frames 1362-1368 — "Mowlith O 70". In German. 1.00

L 49877 Frames 1369-1374 — "Povinal" pressed material 116, "Masse R 1," water soluble. In German. 1.00

L 49876 Frames 1375-1376 — "Styromal" lacquer 7% and 10%. In German. 1.00

L 49875 Frames 1377-1380 — "Appretan H neu." In German. 1.00

L 49874 Frames 1381-1383 — "Appretan KS". In German. 1.00

L 49873 Frames 1384-1387 — Betachloropropionic acid diphenyl-amide. Acrylic acid diphenyl-amide. In German. 1.00

L 49872 Frames 1388-1389 — "Hostalon A 70". In German. 1.00

L 49871 Frames 1390-1392 — "Mowital O 70". In German. 1.00

L 49870 Frames 1393-1394 — Copolymer of vinylchloride and vinyl acetate. In German. 1.00

L 49869 Frames 1395-1396 — "Hostalon IB". In German. 1.00

L 49868 Frames 1397-1399 — "Hostalon IB 50". In German. 1.00

L 49867 Frames 1400-1404 — "Hostalon IB 70". In German. 1.00

L 49866 Frames 1405-1406 — "Hostalon IB 70" solution for compound glass. In German. 1.00

L 49865 Frames 1407-1414 — "Mowital IB 90/40". In German. 1.00

L 49864 Frames 1415-1417 — Anthracene-crotonic acid and anthracene-maleic anhydride. In German. 1.00

L 49863 Frame 1418 — Polyacrylsäureoxäthylamid. Polyacrylic acid hydroxy ethyl-amide. In German. 1.00

L 49862 Frames 1419-1422 — "Hostalon ON/IB 90" and "70". In German. 1.00

L 49861 Frames 1423-1424 — "Hostalon" solution about 17.5%. In German. 1.00

L 49860 Frames 1425-1427 — "Mowital HF". In German. 1.00

L 49859 Frame 1428 — "Mowital HXF". In German. 1.00

L 49858 Frame 1429 — "Mowital NF". In German. Frame 1430 is missing. 1.00

L 49857 Frame 1431 — "Mowital" pressed material I in solution. In German. 1.00

L 49856 — Manufacturing processes of aliphatic intermediates and other organic compounds; Index. In English and German. 1.00

PB L 17684. I.G. FARBENINDUSTRIE A.G. Papers on catalysts, alumina, and hydrogenation, Hochdruckversuche Laboratories. (FLAT Microfilm Reel LF 102, Frames 1-727, 16 mm. microfilm). Jan 1946. 726 f. Price: Microfilm-$6.00 - Enlargement Print-$73.00

The individual items on this reel are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel In German.

| PB Numbers Frames | Title | Price |
|---|---|---|
| L 65481 Frames 1-2 | Use of alumina-W-Ni-contact 7846 W 250 - 8376 for various processes. In German. | $1.00 |
| L 65482 Frames 3-15 | Report on activity November 1941. In German. | 1.00 |
| L 65483 Frames 16-21 | Alumina-molybdenum-nickel- and alumina-tungsten-nickel prehydrogenation cavalysts. In German. | 1.00 |
| L 65484 Frame 22 | Requirements of tungsten for the two stage benzination with various combinations of catalysts. In German. | 1.00 |
| L 65485 Frames 23-30 | ZnO + $Ag_2O_3$ or ZnO + $AgWO_4$ replacing vanadium in the aromatization catalyst 7019. In German. | 1.00 |
| L 65486 Frames 31-32 | Conference on 3-14-41 at Lu 558 on measures for storing catalysts and raw materials for catalysts with regard to air raids. In German. | 1.00 |
| L 65487 Frames 33-44 | Catalyst 7846 for prehydrogenation of Scholven medium oil from coal liquefaction of Bruex tar (a- + s-I oil) and of s-middle oil from Rhine-lignite. In German. | 1.00 |
| L 65488 Frames 45-51 | Reduction of 7019-catalyst in normal operations with coal liquefaction middle oil. In German. | 1.00 |
| L 65489 Frames 52-64 | Comparing the dehydrogenation catalysts 7911 (Leuna) with 7360 Ch. 6 (Lu) at 10 and 25 atm. and graduated temperature (part 2). In German. | 1.00 |
| L 65490 Frames 65-66 | Notes on a conference at Op. 299 on silica gel. In German. | 1.00 |
| L 65491 Frames 67-69 | Preliminary comparison of catalyst 7612/350°C with 7612 and 7360/350°C during dehydrogenation. In German. | 1.00 |

L 65492 Frames 70-81 — Aromatization of middle oil from coal liquefaction. In German. 1.00

L 65493 Frames 82-84 — Quality of residual gasoline in aromatizing catalysts bleaching earth or silicate base. In German. 1.00

L 65494 Frames 85-89 — Aromatizing with Heilbeis catalyst at 600 atm. In German. 1.00

L 65495 Frames 90-99 — Causes for differences in quality of residual gasoline from aromatizing coal liquefaction products. In German. 1.00

L 65496 Frames 100-102 — Gas formation during aromatization at 250, 450 and 600 atm. In German. 1.00

L 65497 Frames 103-104 — Aromatization at 250 atm, catalysts (supplement to report of 1-14-41) In German. 1.00

L 65498 Frames 105-109 — Aromatization at 250 atm, Terrana catalysts. In German. 1.00

L 65499 Frames 110-112 — Aromatization at 250 atm. Compound catalysts. In German. 1.00

L 65500 Frames 113-114 — Aromatization at 300 and 450 atm. Present state. In German. 1.00

L 65501 Frames 115-117 — Experiments on aromatization. Present state. In German. 1.00

L 65502 Frames 118-121 — Aromatizing benzination over 7019. In German. 1.00

L 65503 Frames 122-124 — Aromatization of 5058-B-middle oil Scholven over various catalysts. In German 1.00

L 65504 Frames 125-130 — Aromatization of Sumpf middle oil from K 1156 ("Velsen" coal). In German. 1.00

L 65505 Frames 131-134 — Experiences with the synthesis oven of chamber 506. (re problem: gas recycling- or emulsion method?) In German. 1.00

L 65506 Frames 135-148 — Synthesis plant - Ludwigshafen. In German. 1.00

L 65507 Frames 149-155 — Notes on meeting at "Haus der Technik" in Essen, on progress in development of "Ruhrchemie" synthesis (Fischer-Tropsch process). In German. 1.00

L 65508 Frames 156-157 — Velocity and times of contact in processing coal in the Sumpf phase. In German. 1.00

L 65509 Frames 158-200 — Exchange of experiences on alumina, Oppau, 7-6-1943. In German. 3.00

L 65510 Frames 201-208 — Development of the catalysts for prehydrogenation. Part I, up to catalyst 7745. In German. 1.00

L 65511 Frames 209-217 — State of experiments on prehydrogenation 8-8-40. (Improvement of the Fe-W-Ni-catalyst 6719). In German. 1.00

L 65512 Frames 218-219 — Prehydrogenation over catalysts based on activated alumina. In German. 1.00

L 65513 Frames 220-221 — Report of the catalyst factory on prehydrogenation-catalysts. In German. 1.00

L 65514 Frames 222-223 — Experiments on prehydrogenation with catalysts on alumina. In German. 1.00

L 65515 Frames 224-225 — The present status of experiments on prehydrogenation catalysts. In German. 1.00

L 65516 Frames 226-235 — Prehydrogenation. In German. 1.00

L 65517 Frames 236-241 — Improvement of "6719" by the addition of various components. In German. 1.00

L 65518 Frames 242-248 — DHD-gasoline endpoint 165 and 185°C. In German. 1.00

L 65519 Frames 249-256 — Dehydration and refining of polymer gasoline. In German. 1.00

L 65520 Frames 257-266 — DHD catalyst tests in 100 cc furnaces. In German. 1.00

L 65521 Frames 267-272 — DHD-catalyst tests in 100 cc furnaces. In German. 1.00

L 65522 Frames 273-276 — Processing of Hungarian gasoline to DHD gasoline. In German. 1.00

L 65523 Frames 277-291 — DHD-catalyst tests in 100 cc furnaces. In German. 2.00

L 65524 Frames 292-300 — Processing of Sumpf gasoline from K 1242 to DHD-gasoline in the 40 litre furnace 601. In German. 1.00

L 65525 Frames 301-309 — Processing of Zeitz TTH gasoline to a high power fuel by the DHD method. In German. 1.00

L 65526 Frames 310-319 — Processing of gasoline from the mild aromatization (catalyst 7501) by the DHD method. In German. 1.00

L 65527 Frames 320-326 — DHD experiments on Rumanian heavy petroleum gasolines processed in Poelitz. In German. 1.00

L 65528 Frames 327-334 — Dehydrogenation of Rumanian heavy gasoline over powdery catalyst. In German. 1.00

L 65529 Frames 335-349 — 600-atm aromatization of middle oil from coal liquefaction as preliminary step for the preparation of DHD high power fuel. In German. 2.00

L 65530 Frames 350-353 — Utilization of waste DHD-catalyst (7360) by re-forming after previous peptization. (Experiments in a 100 cc furnace). In German. 1.00

L 65531 Frames 354-382 — Inhibition of dehydrogenation, and permanent damage to DHD catalyst by oxygen-, nitrogen-, and sulfur-compounds and by unsaturated compounds. In German. 3.00

L 65532 Frames 383-395 — Testing DHD catalysts in a 1 liter oven. In German. 2.00

L 65533 Frame 396 — Note on the problem of secondary heating of DHD catalysts after saturation with ammonium molybdate. In German. 1.00

L 65534 Frames 397-403 — Removal of sulfurdioxide for regeneration of DHD unit chambers. In German. 1.00

L 65535 Frames 404-409 — DHD gasoline, quality and yield, Ka 807 Lu. In German. 1.00

L 65536 Frames 410-421 — Dehydration at 50 and 15 ats. Comparison of costs. In German. 1.00

L 65537 Frames 422-426 — Aviation gasoline from Estonian shale oil. In German. 1.00

L 65538 Frames 427-433 — Hydrogenation and catalytic cracking of petroleum-gas oil catalytically cracked. In German. 1.00

L 65539 Frames 434-441 — On Ni-W-dehydrogenation of gasolines rich in naphthene. In German. 1.00

L 65540 Frames 442-449 — Experiments on catalysts for dehydrogenation (Experiments with 6434 gasolines from coal liquefaction- and coal tar-middle oil. In German. 1.00

L 65541 Frames 450-456 — On some possibilities of supplying heat in dehydrogenation of gasoline over 6718. In German. 1.00

L 65542 Frames 457-461 — Catalytic dehydrogenation of 5058/6434 Scholven heavy stripper gasoline fraction 90-180°C and 7019-aromatization gasoline fraction 160-190°C over K 7360. In German. 1.00

L 65543 Frames 462-471 — DHD experiments in the 100 ltr. oven. 1st report: Processing of the fraction 160-190° from the 7019 aromatization of coal liquefaction middle oil in chamber 201. In German. 1.00

L 65544 Frames 472-480 — Dehydrogenation of fractions from 5058/6434 coal gasoline. Part I. Fraction 70-100° and 100-130°. In German.

L 65545 Frames 481-492 — Dehydrogenation under hydrogen pressure over moving catalyst. Report 9: Dehydrogenation of coal heavy gasoline "Scholven." In German. 1.00

L 65546 Frames 493-495 — Testing a sample of the Mathilde mine for suitability for hydrogenation (experiments in rotating autoclave). In German. 1.00

L 53952 Frames 496-499 — Evaluation and preliminary results of hydrogenation on samples of Rumanian coal in the autoclave by Prof. Heintze. In German. 1.00

L 65547 Frames 500-501 — Tests on catalyst, particularly regarding the effect of the addition of "Sulfigran" on the hydrogenation of Upper Silesian coal in the rotating autoclave. In German. 1.00

L 65548 Frames 502-503 — Decreasing and rising temperature in hydrogenation of Upper Silesian coal. (Experiments in the rotating autoclave. In German. 1.00

L 65549 Frames 504-508 — Hydrogenation of oxydized coal in the autoclave at 600 ats. In German. 1.00

L 65550 Frames 509-511 — Results of hydrogenation of two samples of wood tar from Sweden in the rotating autoclave. In German. 1.00

L 65551 Frames 512-514 — Janina coal. Present results of tests in the rotating autoclave. In German. 1.00

L 65552 Frames 515-518 — Experiments with hydrogenation in rotating autoclave using boro fluoride as catalyst for coal. (Experiments at 300 and 600 ats in rotating autoclave). In German. 1.00

L 65553 Frames 519-522 — Results of hydrogenation of two samples of coal from pit "Gute Hoffnung" (formerly Janina), in the rotating autoclave. In German. 1.00

L 65554 Frames 523-526 — Testing low temperature carbonizing residues of shale for their suitability as Suspf phase catalysts. (Experiments at 600 ats in the rotating autoclave). In German. 1.00

L 65555 Frames 527-529 — Substitute for ammonium chloride in hydrogenation of Scholven coal. (Experiments at 350 ats in the rotating autoclave.) In German. 1.00

L 65556 Frames 530-532 — Early hydrogenation experiments with arsenic compounds. In German. 1.00

L 65557 Frames 533-534 — Hydrogenation experiments with gas purification agents of Ruhrgas A.G. in the rotating autoclave. In German. 1.00

L 65558 Frames 535-540 — Early hydrogenation experiments with chlorinated and oxidized coal in an autoclave. In German. 1.00

L 65559 Frames 541-545 — Hydrogenation results with Janina coal (Auschwitz) K 1262 (of 4-12-43) in the rotating autoclave. In German. 1.00

L 65560 Frames 546-548 — Hydrogenation results with Myslowitz coal K 1263 in the rotating autoclave, at 350 and 600 ats pressure. In German. 1.00

L 65561 Frames 549-551 — Possibility of replacing ammonium chloride in the hydrogenation of Ruhr coal. (Early experimental results.) In German. 1.00

L 65562 Frame 552 — Preliminary hydrogenation results with the help of elementary sulfur in various products. (Experiments in the rotating autoclave.) In German. 1.00

L 65563 Frames 553-554 — Experiments for isomerizing n-heptane over 5058 in a rotating autoclave. In German. 1.00

L 65564 Frames 555-557 — Early hydrogenation experiments in the autoclave with elementary sulfur. In German. 1.00

L 65565 Frames 558-563 — Experiments with hydrogenation of Spanish coal in the rotating autoclave at 350 and 600 ats. In German. 1.00

L 65566 Frames 564-565 — Results of experiments with Rhine lignite in the autoclave. In German. 1.00

L 65567 Frames 566-568 — Admixture of coal tar pitch to Rhine lignite (hydrogenation experiments in the rotating autoclave.) In German. 1.00

L 65568 Frames 569-573 — Experiments for the decomposition and hydrogenation of Esthonian and other shales and shale concentrates in the autoclave. In German. 1.00

L 65569 Frames 574-575 — Experiments for the decomposition of Bulgarian oil shale (Bresnik) (S 21) carried out on Oct 20, 1941 in the autoclave. In German. 1.00

L 65570 Frames 576-577 — Replacing iron sulfate by "Lux Mass" or "Bayer Mass" $H_2SO_4$ in the hydrogenation of Upper Silesian coal K 1242. (Experiments in a rotating autoclave. In German. 1.00

L 65571 Frames 578-579 — Note on formation of "caviar" with Rhine lignite ash analysis of lignite. In German. 1.00

L 65572 Frames 580-582 — Influence of the free hydrogen and volatiles on the crude tar yield, and dependence of the hydrogenation suitability on the crude tar yield and on the presence of free hydrogen and volatiles in Upper Silesian and Dombrowa coal. In German. 1.00

L 65573 Frames 583-584 — Experiments for the hydrogenation of concentrate of Esthonian oil shale in the rotating autoclave at 300 atm. In German. 1.00

L 65574 Frames 585-587 — Hydrogenation results of samples of coal from the Upper Silesian "Fuerstengrube" and "Valeskagrube" in the rotation autoclave. In German. 1.00

L 65575 Frames 588-590 — Testing 2 generator flue dust samples from low temperature carbonisation coke "Hercules" for their suitability as catalyst carriers. (Experiments in the rotating autoclave.) In German. 1.00

L 65576 Frames 591-592 — Suitability for hydrogenation and value of low temperature carbonization in Ruhr coal. In German. 1.00

L 65577 Frames 593-594 — Experiments on decomposing shale from the "Aessel" pit (S 20) in the rotary autoclave. In German. 1.00

L 65578 Frames 595-599 — Experiments on hydrogenation of old coal in the rotary autoclave at 600 atm. In German. 1.00

L 65579 Frames 600-601 — Vanadium as catalyst in the Sumpf phase. (Early and more recent experiments in the rotary autoclave.) In German. 1.00

L 65580 Frames 602-606 — On the problem of pasting oil for the pressure extraction of coal. In German. 1.00

L 65581 Frames 607-610 — Catalyst experiments with "Welheim" pitch mash in the rotary autoclave at 600 atm. In German. 1.00

L 65582 Frames 611-614 — Processing of Esthonian shale oil. In German. 1.00

L 65583 Frames 615-624 — Extraction experiments in the rotary autoclave for producing primary bitumen. In German. 1.00

L 65584 Frames 625-633 — Hydrogenation experiments for determining the influence of sulfur in Upper Silesian coal K 1180 and K 1197 in the rotary autoclave at 600 atm. In German. 1.00

L 65585 Frames 634-634 — Notes on the Paris conference of Aug 22, 1940 (Rue Dr. Lancereaux) concerning the installation of the refinery in Confreville. In German. 1.00

L 65586 Frame 638-640 — Production of fuel in Northern France. In German. 1.00

L 65587 Frames 641-653 — Hydrogenation plant Lievin. In German. 1.00

L 65588 Frames 654-666 — Hydrogenation plant Bethune. In German. 1.00

L 65589 Frames 667-671 — Fischer synthesis plant Courrieres. In German. 1.00

L 65590 Frames 672-674 — Analysis of gasolines from Bethune and Lievin. In German. 1.00

L 65591 Frames 675-686 — Benzination of B-middle oil from Gardanne lignite coal. In German. 1.00

L 65592 Frames 687-695 — Catalytic pressure hydrogenation of Gardanne coal in small scale experiments at Ludwigshafen/Rhine. In German. 1.00

L 65593 Frames 696-702 — Yield from Gardanne coal. In German. 1.00

L 65594 Frames 703-704 — Report on a conference on the Japanese coal hydrogenation plant on April 27, 1944 at the "Laenderbank," Berlin. In German. 1.00

L 65595 Frames 705-706 — Notes on a conference with the Japanese on preparing Isooctane from Isobutyl alcohol on July 22, 1943 at Berlin. In German. 1.00

L 65596 Frames 707-710 — Quality of gasoline for Japan plant. In German. 1.00

L 65597 Frames 711-727 — The coal from the Upper Silesian coalfield. In German. 2.00

L 65480 — Papers on catalysts, alumina and hydrogenation, Hochdruckversuche Laboratories. I.G. Farbenindustrie (Index). 1.00

* PB L 81088. LOVELESS, A. H. The production of carbon black from carbon monoxide. (BIOS Final Rept 1399, Item 22) n. d. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00

This report is on the interrogation of Dr. Barth and Dr. Kloepfer. Dr. Kloepfer did a little research on the production of carbon black from carbon monoxide by passing the gas over heated ferric oxide at atmospheric pressure. The method is given. Dr. Barth was employed, during the war by Kuhlmann at Lille, where carbon black was made from carbon monoxide obtained from a synthetic ammonia plant in which water gas was scrubbed with water at 12 ats. pressure to remove carbon dioxide, after which carbon monoxide was absorbed in cuprous chloride. The carbon monoxide was then liberated and compressed to 6 ats. at which pressure it was used for the production of the black. Neither of these methods produced a good quality of carbon black for use in rubber. Table attached gives results of these tests. Dr. Barth was questioned regarding the influence of the following factors on the reaction for the production of carbon black on the effect of: (1) temperature, (2) gas velocity, (3) added gases in the presence of iron catalysts, (4) the previous treatment of the iron containing solid phase, (5) pressure, (6) carbon itself, (7) carbon deposition on various metals, metallic oxides, and other materials, and (8) influence of cyanogen, ammonia, and hydrogen sulfide.

* PB L 81279. NASH, ROY W. Catalysts for the manufacture of phthalic anhydride and aniline, I. G. Farbenindustrie A. G., Ludwigshafen. (FIAT Final Rept 649) May 1947. 17 p. Price: Mimeo-50¢

This report gives details on the manufacture and use of catalysts in the I. G. Farbenindustrie plant at Ludwigshafen for the production of: (1) phthalic anhydride from naphthelene; and (2) aniline by hydrogen reduction of nitrobenzene. Schematic diagrams of the processes are included.

* PB L 81283. HILL, FREDERICK and LARGENT, RAYMOND. Manufacture of acrylonitrile by addition of hydrocyanic acid to acetylene. (FIAT Final Rept 1125) May 1947. 20 p. Price: Mimeo-50¢

Supplementing previous reports on the subject of the manufacture of acrylonitrile by addition of hydrocyanic acid to acetylene, this report presents additional detailed information on the process successfully engineered by I. G. Farbenindustrie. The development of the important reaction vessel, optimum operating conditions for the reactor and the reasons therefor, present treatment and proposed purification of recycled reactor exit gas, and important operating

details of the distillation and refining of crude acrylonitrile at Leverkusen, are covered in the first section of the report. The second section presents detailed information on equipment design and manufacturing process proposed for new plants and Ludwigshafen and Auschwitz, with projected capacities of 600 tons and 400 tons per month, respectively. These new plants, in the construction stage at the termination of the war, were never completed. Information obtained in the interrogation of personnel directing the laboratory research work undertaken for new plant design is also given. Advantages claimed for the new plants, as compared with the Leverkusen 70-ton per month plant, included manufacture of an acrylonitrile product of very high purity, increased output of acrylonitrile per unit of volume of catalyst solution, and a marked increase in the life of the catalyst solution.

* PB L 81696. WALLER, C. J. Chemische Fabrik Joh. A. Benckiser, G. m. b. H., Ladenburg works. Manufacture of calcium citrate. (BIOS Final Rept 489, Item 22) 1944. 22 p. Price: Microfilm-$1.50 - Photostat-$3.00
The plant is of modern design and the process yields 70% of citric acid based on the sugar content of the raw molasses. There is a complete absence of side reactions during the fermentation process. The report covers the following: (a) description of fermentation process, (b) details of culture growth, (c) disinfecting of fermentation chambers, (d) pretreatment of air, (e) treatment of fermented liquor, (f) details of plant, and (g) services required, personnel health precautions. A flow diagram is attached.

## FOOD AND KINDRED PRODUCTS

* PB L 81612. GOETZEL, WALTER. German pea processing and feed manufacturing plant. (BIOS Final Rept 1464, Item 31). Jan 1947. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report is a general survey of the feed situation in Germany 1947 for chickens, poultry, hogs and pigeons. The development of the manufacturing of German poultry feed is illustrated by an analysis of the feed which the Manheimer Schaelmuehle Sievers produced during the war years. Investigation of two flour mills is also included.

PB L 80835. GOSS, W. H. F. Thörl's Vereinigte Harburger Oelfabriken Aktiengesellschaft, Hamburg. Aug 1945. 18 p. Price: Microfilm-$1.00 - Photostat-$2.00
F. Thörl's Vereinigte Harburger Oelfabriken A. G. is one of the largest oilseed mills and vegetable oil refineries in Germany. The manner in which various steps in the process of making finished products from raw materials are conducted in different plants is quite dissimilar to American practice. The report covers the following: (a) pressing plant, (b) extraction plant, (c) recovery of lecithin, (d) refining, (e) reversion of soybean oil, (f) preparation of carotene, (g) industrial proteins, and (h) a few miscellaneous remarks about research and naming of a few interests outside the oil interests.

* PB L 81848. HEWITT, A. C. German synthetic sausage casings industry. (FIAT Final Rept 1118). Jun 1947. 28 p. Price: Mimeo-$0.75
This report covers the various manufacturing processes employed in Germany during the war for the production of thin-wall tubing to be used for synthetic sausage casings. Raw materials and process details are included; equipment is discussed in some detail; and figures for production output and capacity are given. There are drawings of several important pieces of production equipment.

* PB L 79239. WILSON E. P. and LEWIS, F. C. Food preparing machinery. (BIOS Final Rept 1271, Item 31). Oct 1946. 61 p. Price: Microfilm-$2.00 - Photostat-$5.00
This report covers individual report on 25 targets visited in the British zone. In the case of some of the factories dealt with in these reports, merely a brief summary of their products and activities are given. Appendices A to L inclusive consist of sectional drawings of various machines used in food preparation in Germany.

## LUMBER AND WOOD PRODUCTS

* PB L 85139. CRUSIUS, CHRISTOPHER C. Production methods of wall board and wood substitute. (FIAT Final Rept 1306). Aug 1947. 21 p. Price: Mimeo-$0.75
This report contains technical data concerning the production methods of special wallboards or fibre material to be used as substitute for a light weight wood of high tensile and compressive strength. The data was collected at the J. M. Voith works in Heidenheim, Württemberg, Germany. Plant layout, drawings and illustrations are included.

PB L 31590-82. FAHLBUSCH. Investigations on the strength of "Holtg Homogenhols." 1944. (Supp 2 to PB 31590, FIAT Final Report 572). Mar 1944. 25 p. Price: Microfilm-$1.00 - Photostat-$2.00
In this report the specific gravity, moisture content, tensile strength and the strength of the hole walls are determined in various types of Holig-Homogenhols. Numerous tables, diagrams and graphs showing the investigation results are attached. This document is a supplement to the report "Resin filled fiberboard of the Holig Homogenhols-Werke" by Winslow and others, PB 31590, an abstract of which appears in volume 2 of the Bibliography on page 964. In German.

PB L 81013. HÄGER, BROR. Impregnation method for "Bolinden." 1945. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
"Bolinden" is a water solution of arsenic acid, sodium arsenate, bichromate and zinc sulfate. It is claimed that 99% of the 130,000 cubic meters of wood treated annually in Sweden is now impregnated with "Bolinden" salts because of the creosote shortage. This article describes the method used; illustrations are included. The article is in Swedish.

PB L 31590-6. HOLIG-HOMOGENHOLZWERKE G.M.B.H., BAIERSBRONN, GERMANY. Data sheets. (Supp to PB 31590, FIAT Final Report 572). n. d. 24 p. Price: Microfilm-$1.00 - Photostat-$2.00
These graphs of physical properties of the products of the firm supplement the report "Resin filled fiberboard of the Holig Homogenhols-Werke" by Winslow and others, PB 31590, abstracted on page 964 of volume 2 of the Bibliography. Captions are in German.

* PB L 79245. PORTER, P. W. Investigation of targets connected with the manufacture of fibre building boards in Germany. (BIOS Final Rept 989, Item 22). Jun-Jul 1946. 138 p. Price: Microfilm-$3.00 - Photostat-$10.00
This report covers investigation of 12 manufacturing firms with a detailed report of each visit. Appendix 1 to 16 inclusive, consists of reprints of technical data pertaining to the industry, illustrated leaflets and catalogues from manufacturers of equipment and supplies for the trade.

PB L 74637. GOETZEWERKE A. G., BURSCHEID/RHLD., GERMANY. Testing of piston rings, gaskets, and packings. (FIAT Microfilm Reel L-132, Frames 4691-5307) 1938-1944. 617 f. Price: Microfilm-$6.00 - Enlargement print-$62.00

This reel was prepared by FIAT investigators in Germany. 28 individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. In German.

| Frames | Title | Price |
|---|---|---|
| 4691-4697 PB L 74637 | Floating connecting rod bushing from a Jumo 211. 1939. In German. | $1.50 |
| 4698-4705 PB L 74637 | X-ray photographs of a "Freudenberg" and "Götze" Buna shaft packing. 1944. In German. | 1.50 |
| 4706-4713 PB L 74637 | Determining the general operating procedures with the "Metaluskop" x-ray apparatus. 1942. In German. | 1.50 |
| 4714-4717 PB L 74637 | Broken piston ring made of "Brackelsberg" cast. 1938. In German. | 1.50 |
| 4718-4745 PB L 74637 | New research for economical production of brake linings. 1941. In German. | 3.00 |
| 4746-4752 PB L 74637 | Piston ring with light metal insert. 1944. In German. | 1.50 |
| 4753-4776 PB L 74637 | Roentgenographic evaluation of a "Debye-Scherrer"-diagram of antimony. 1943. In German. | 2.50 |
| 4777-4793 PB L 74637 | Sintered wire of silver and iron. 1943. In German. | 2.00 |
| 4794-4812 PB L 74637 | Perfectly sealing "Teves" piston rings and loose "Goetze" piston rings. 1944. In German. | 2.00 |
| 4813-4817 PB L 74637 | Steel piston ring. 1939. In German. | 1.50 |
| 4818-4831 PB L 74637 | Valve seating rings of various materials. 1938. In German. | 1.50 |
| 4832-4840 PB L 74637 | Slip rings of pressed material for water pump packings made of a loose pressed mass. 1940. In German. | 1.50 |
| 4841-4861 PB L 74637 | Pressure gradient and distribution of lubricating oil within the chambers depending on the type and number of packing rings for automatically operating springy ring packings of piston compressors. 1940. In German. | 2.50 |
| 4862-4869 PB L 74637 | Investigating soft graphite rings with regard to strength and hardness depending on the binding agent additive. 1941. In German. | 1.50 |
| 4870-4881 PB L 74637 | Tests for determining the heat stability of spring wire. 1942. In German. | 1.50 |
| 4882-5082 PB L 74637 | Test stand experiments concerned with packings. 1939-1941. In German. | 16.00 |
| | "Goetze" pamphlets. | |
| 5062-5084 PB L 74637 | Original "Goetze" piston rings. 1938. In German. | 2.50 |
| 5085-5135 PB L 74637 | Piston rings, gaskets, packings, and the "Zaflt" anti-friction agent. 1945. In German. | 5.50 |
| 5136-5149 PB L 74637 | Piston ring publication No. 2, 4, 7,8. (n. d.). In German. | 1.50 |
| 5150-5206 PB L 74637 | Piston rings, gaskets, packings. (n. d.). In German. | 6.00 |
| 5207-5213 PB L 74637 | Piston ring publication. (n. d.). In German. | 1.50 |
| 5214-5225 PB L 74637 | Standardized piston rings. (n. d.). In German. | 1.50 |
| 5226-5235 PB L 74637 | "Mola" piston rings. (n. d.). In German. | 1.50 |
| 5236-5253 PB L 74637 | Hot rolling of iron-carbon alloys with over 1.7% carbon, by K. Piwowarsky and A. Wittmoser. (n. d.). In German. | 2.00 |
| 5254-5266 PB L 74637 | Determining the permanent shape modification and tensile strength of piston rings made of sintered metal. First report. (n. d.). In German. | 1.50 |
| 5267-5270 PB L 74637 | Sintering of piston rings. 1944. In German. | 1.50 |
| 5271-5279 PB L 74637 | See frames 5256-5266. Second report. (n. d.). In German. | 1.50 |
| 5280-5307 PB L 74637 | Index of documents at the "Goetzewerke A. G., Burscheid." 1947. In German. | 3.00 |

PB L 74659. GOETZEWERKE, BURSCHEID, GERMANY. Piston rings. (FIAT Microfilm Reel L 130, Frames 3116-3894) 1936 - 1945. 779 F. Price: Microfilm-$6.00 - Enlargement print-$78.00.

This reel was prepared by FIAT investigators in Germany. 21 individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. In German.

| Frames | Title | Price |
|---|---|---|
| 3116-3164 PB L 74659 | Influence of radial pressure distribution, tension and thrust on the sealing capacity of piston rings. 1937. In German. | $5.00 |
| 3165-3214 PB L 74659 | Effect of pressure and thrust on the sealing capacity of piston rings. 1937. In German. | 5.00 |
| 3215-3247 PB L 74659 | Determining the bending strength of airplane piston rings. 1936. In German. | 3.50 |
| 3248-3260 PB L 74659 | Tension tests made at Apolda during the last quarter of 1942. 1943. In German. | 1.50 |
| 3261-3275 PB L 74659 | Investigating the manufacture of Opel rings. 1944. In German. | 1.50 |
| 3276-3283 PB L 74659 | Design and calculation of a new tangential stress scale with direct indication. 1945. In German. | 1.50 |
| 3284-3554 PB L 74659 | Developing suitable piston rings for steel cylinders hardened by nitridation. (Test reports) 1937. In German. | 27.50 |
| 3555-3604 PB L 74659 | Centrifugal casting. 1943. In German. | 5.00 |

3605-3635 PB L 74659 — Manufacture of piston rings based on the hot blast cupola furnace process. 1943. In German. 3.50

3636-3652 PB L 74659 — Melting of piston ring material by Piwowarsky. 1941. In German. 2.00

3653-3665 PB L 74659 — Testing of a melt specimen of the "Giesserei - Institut Aachen." 1941. In German. 1.50

3666-3689 PB L 74659 — Relationship between the oil adsorption capacity and the piston ring material. 1937. In German. 2.50

3690-3710 PB L 74659 — Investigating the resistance to abrasion during a rotating wear and tear test with oil at various temperatures. 1937. In German. 2.50

3711-3727 PB L 74659 — Testing the resistance to abrasion of piston ring material under dry conditions. 1937. In German. 2.00

3728-3739 PB L 74659 — Investigating the effect of the E-modulus on the usual material values of piston ring materials. 1937. In German. 1.50

3740-3770 PB L 74659 — Requirements of a piston ring. 1934. In German. 3.50

3771-3820 PB L 74659 — Testing of 200 piston rings. 1936. In German. 5.50

3821-3860 PB L 74659 — Piston rings for airplane motors. n.d. In German. 4.00

3861-3873 PB L 74659 — Heat bending tests with cast iron. 1942. In German. 1.50

3874-3891 PB L 74659 — Occurrence of spherolithic graphite in technical cast iron. 1938. In German. 2.00

3892-3894 PB L 74659 — Development of piston ring materials. 1936. In German. 1.50

PB L 74661. GOETZEWERK A. G., BURSCHEID, GERMANY. Piston rings, packings and other machine parts. (FIAT Microfilm Reel L 126, Frames 1-772) 1936-1945. 772 f. Price: Microfilm-$6.00 - Enlargement print-$77.50. This reel was prepared by FIAT investigators in Germany and consists of records of the patent division of the subject firm. 48 individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. In German.

| Frames | Title | Price |
|---|---|---|
| 1-14 PB L 74661 | Combined spring system. 1944. In German. | $ 1.50 |
| 15-27 PB L 74661 | Packing for steam piston. 1942. In German. | 1.50 |
| 28-63 PB L 74661 | Piston ring "F 11". 1942. In German. | 6.00 |
| 64-139 PB L 74661 | Piston ring. 1945. In German. | 6.00 |
| 140-148 PB L 74661 | Unstressed flexible packing ring. 1939. In German. | 1.50 |
| 149-164 PB L 74661 | Piston ring of sintered iron. 1944. In German. | 2.00 |
| 165-171 PB L 74661 | Method for the manufacture of piston rings. 1943. In German. | 1.50 |
| 172-183 PB L 74661 | Method for stressing springy piston rings. 1944. In German. | 1.50 |
| 184-193 PB L 74661 | Radial pressure tester for springy packing rings. 1936. In German. | 1.50 |
| 194-210 PB L 74661 | Valve seat ring. 1938. In German. | 2.00 |
| 211-322 PB L 74661 | Cast iron work pieces with well developed gliding properties for high stresses. 1934-1941. In German. | 11.50 |
| 323-329 PB L 74661 | Piston ring closure for internal combustion engines. 1939. In German. | 1.50 |
| 330-336 PB L 74661 | Bearing for clutches. 1941. In German. | 1.50 |
| 337-384 PB L 74661 | Corrosion and wear and tear phenomena. By A. J. Maurin, 1942. In German. | 5.00 |
| 385-392 PB L 74661 | Machine for automatically cutting rings. 1944. In German. | 1.50 |
| 393-397 PB L 74661 | Locking device for pipe lines. 1944. In German. | 1.50 |
| 398-402 PB L 74661 | Method for manufacturing of cast iron packing rings. 1944. In German. | 1.50 |
| 403-410 PB L 74661 | Cast iron work pieces under wear and tear stresses. 1944. In German. | 1.50 |
| 411-414 PB L 74661 | Method for the manufacture of packing rings. 1944. In German. | 1.50 |
| 415-417 PB L 74661 | Method for producing piston rings of iron carbon alloys. 1944. In German. | 1.50 |
| 418-423 PB L 74661 | High heat-resistant packing. 1944. In German. | 1.50 |
| 424 PB L 74661 | Method for improving non-chipping deformation of metals by drawing. 1945. In German. | 1.50 |
| 425-429 PB L 74661 | Heat resistant packing plate. 1944. In German. | 1.50 |
| 430-470 PB L 74661 | Piston with protective ring for internal combustion engines. 1941. In German. | 4.50 |
| 471-476 PB L 74661 | Method and device for annealing of piston rings in the salt bath furnace. 1942. In German. | 1.50 |
| 477-480 PB L 74661 | Pre-treatment of a packing ring under wear stresses during heating. 1944. In German. | 1.50 |
| 481-483 PB L 74661 | Method for the production of cast iron piston rings. 1944. In German. | 1.50 |
| 484-489 PB L 74661 | Cast iron used for bearings. 1941. In German. | 1.50 |
| 490-497 PB L 74661 | Method for the operation of blast furnaces. 1944. In German. | 1.50 |
| 498-501 PB L 74661 | Extensometer for determining radial pressure. 1944. In German. | 1.50 |
| 502-520 PB L 74661 | Highly stressed piston rings in fast running internal combustion engines. 1944. In German. | 2.00 |
| 521-548 PB L 74661 | Piston tested under friction. 1938. In German. | 3.00 |

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|---|---|---|
| 549-563 PB L 74661 | Clutch for vehicles. 1940. In German. | 1.50 |
| 564-568 PB L 74661 | Supercharger shaft packing by means of sealing oil under pressure. 1944. In German. | 1.50 |
| 569-574 PB L 74661 | Optical device for measuring surface deformations. n.d. In German. | 1.50 |
| 575-603 PB L 74661 | Testing apparatus for determining wear and tear of parts that move against each other. 1945. In German. | 3.00 |
| 604-619 PB L 74661 | Protective coating for preventing heat transfer in pipes or containers. 1938. In German. | 2.00 |
| 620-658 PB L 74661 | Rolled packing ring. 1945. In German. | 4.00 |
| 659-682 PB L 74661 | Automatically adjusting springy packing. 1942. In German. | 2.50 |
| 683-692 PB L 74661 | Device for measuring the radial stress of coil springs. 1942. In German. | 1.50 |
| 693-702 PB L 74661 | Sintered cast iron. 1942. In German. | 1.50 |
| 703-713 PB L 74661 | Method and device for producing thermally stressed piston rings. 1943. In German. | 1.50 |
| 714-728 PB L 74661 | Austenite without nickel. 1944. In German. | 1.50 |
| 729-735 PB L 74661 | Method for the manufacture of piston rings. 1942. In German. | 1.50 |
| 736-742 PB L 74661 | Cased-in packings. 1943. In German. | 1.50 |
| 743-758 PB L 74661 | Slip ring packing. 1944. In German. | 1.50 |
| 759-764 PB L 74661 | "Zafitizing" of briquettes made of sintered iron powder before sintering. 1944. In German. | 2.00 |
| 765-772 PB L 74661 | Piston ring for internal combustion engines. 1941. In German. | 1.50 |

PB L 74628. GOETZEWERKE A. G., BURSCHEID, GERMANY. Pistons, piston rings, and packings. (FIAT Microfilm Reel L - 127, Frames 773-1558) 1939 - 1945. 786 F. Price: Microfilm-$6.00 - Enlargement print-$79.00
This reel prepared by FIAT investigators in Germany consists mainly of patent applications and design patent applications in the above mentioned field. 50 individual items are listed below and will be available as enlargements prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. In German.

| Frames | Title | Price |
|---|---|---|
| 773-790 PB L 74628 | Method for the production of piston rings. 1944. In German. | $2.00 |
| 791-795 PB L 74628 | Sealing for pistons of internal combustion engines. 1942. In German. | 1.50 |
| 796-843 PB L 74628 | "Bakelit" running surface. 1941. In German. | 5.00 |
| 844-850 PB L 74628 | Cylinder head gasket. 1943. In German. | 1.50 |
| 851-871 PB L 74628 | Method of manufacturing piston rings having equal tangential stress. 1940. In German. | 2.50 |
| 872-875 PB L 74628 | Primary ferrite for piston rings. 1945. In German. | 1.50 |
| 876-879 PB L 74628 | Piston ring with layer on the running surface. 1944. In German. | 1.50 |
| 880-898 PB L 74628 | Piston ring. 1943. In German. | 2.00 |
| 899-926 PB L 74628 | Method for the manufacture of flat gaskets. 1943. In German. | 3.00 |
| 927-946 PB L 74628 | Piston sealing for internal combustion engines. 1940. In German. | 2.00 |
| 947-953 PB L 74628 | Flange packing. 1944. In German. | 1.50 |
| 954-961 PB L 74628 | Piston rings with graphite. 1944. In German. | 1.50 |
| 962-972 PB L 74628 | Method for the magnetic determination of structure properties. 1944. In German. | 1.50 |
| 973-978 PB L 74628 | Packing ring. 1944. In German. | 1.50 |
| 979-985 PB L 74628 | Shaft packing with housing. 1945. In German. | 1.50 |
| 986-991 PB L 74628 | Lathe with self-tightening lining. 1942. In German. | 1.50 |
| 992-1008 PB L 74628 | Manufacture of synthetic hard rubber "Tickol". 1944. In German. | 2.00 |
| 1009-1029 PB L 74628 | Stressed rings with radial pressure curves. 1940. In German. | 2.50 |
| 1030-1034 PB L 74628 | Piston ring with a light metal surface. 1944. In German. | 1.50 |
| 1035-1040 PB L 74628 | Method for the production of piston rings. 1941. In German. | 1.50 |
| 1041-1062 PB L 74628 | Various piston rings. n.d. In German. | 2.50 |
| 1063-1068 PB L 74628 | Piston ring with plastic insert. n.d. In German. | 1.50 |
| 1069-1082 PB L 74628 | Brake lining. 1944. In German. | 1.50 |
| 1083-1095 PB L 74628 | Objection to patent for a method of manufacturing high stress resistant cast parts e. g. piston rings of grey iron. 1940. In German. | 1.50 |
| 1096-1105 PB L 74628 | Clutch for vehicles. 1939. In German. | 1.50 |
| 1106-1113 PB L 74628 | Flat gasket particularly cylinder head gasket "Columbit". 1944. In German. | 1.50 |
| 1114-1164 PB L 74628 | Cast iron pieces having good gliding properties. 1940. In German. | 5.50 |
| 1165-1168 PB L 74628 | Patent objection to a method for applying an auxiliary layer on internal combustion engine pistons. 1942. In German. | 1.50 |
| 1169-1245 PB L 74628 | Piston ring. 1940. In German. | 8.00 |
| 1246-1263 PB L 74628 | Device for automatic adjustment of a dial indicator. 1944. In German. | 2.00 |

1264-1275 PB L 74628 — Method for the production of a self-tightening piston ring sealing consisting of several rings. 1944. In German. 1.50

1276-1278 PB L 74628 — Manufacture of objects made of iron-carbon-alloys. 1943. In German. 1.50

1279-1313 PB L 74628 — Manufacturing method of highly wear-and-tear resistant piston rings. 1944. In German. 3.50

1314-1321 PB L 74628 — Method of measuring the radial stress of coil springs. 1942. In German. 1.50

1322-1325 PB L 74628 — Instrument for measuring small angles. 1943. In German. 1.50

1326-1360 PB L 74628 — Heat-resistant flat packing. 1941. In German. 3.50

1361-1368 PB L 74628 — Electrical measuring method for determining radial pressures. 1943. In German. 1.50

1309-1372 PB L 74628 — Packing ring. 1944. In German. 1.50

1373-1385 PB L 74628 — Packing plate of soft material. 1943. In German. 1.50

1386-1398 PB L 74628 — Packing ring consisting of several corrugated layers. 1941. In German. 1.50

1399-1404 PB L 74628 — Piston ring consisting of a pressed mixture of cast iron and carbon. 1944. In German. 1.50

1405-1445 PB L 74628 — Non-fibrous flat packing. 1944. In German. 4.50

1446-1466 PB L 74628 — Shaft packing for high pressures. 1944. In German. 2.50

1467-1486 PB L 74628 — Friction bearing. 1945. In German. 2.00

1487-1493 PB L 74628 — Piston ring made of sintered iron. 1944. In German. 1.50

1494-1502 PB L 74628 — Flat packing made of sheet metal. 1944. In German. 1.50

1503-1532 PB L 74628 — Patent objection with regard to a hardness tester based on the Rockwell method. 1943. In German. 3.00

1533-1541 PB L 74628 — Automatically operating spring packing. 1944. In German. 1.50

1542-1550 PB L 74628 — Polyurethane used for the manufacture of plastics. 1943. In German. 1.50

1551-1558 PB L 74628 — Hot-air stove for blast furnaces. 1944. In German. 1.50

PB L 74619. GOETZEWERK A.G., BURSCHEID, GERMANY. Testing of piston rings, packings and other machinery parts. (FIAT Microfilm Reel L 128, Frames 1559-2340) 1936-1945. 782 f. Price: Microfilm-$6.00 - Enlargement print-$78.50. This reel prepared by FIAT investigators in Germany contains records of the patent department of the subject firm. 54 individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. In German.

| Frames | Title | Price |
|---|---|---|
| 1559-1564 PB L 74619 | Shaft packing. 1944. In German. | $ 1.50 |
| 1565-1569 PB L 74619 | Centering device for piston rings. 1944. In German. | 1.50 |
| 1570-1574 PB L 74619 | Device for emptying of molds. 1944. In German. | 1.50 |
| 1575-1578 PB L 74619 | Shock absorber in clutches. 1939. In German. | 1.50 |
| 1579-1588 PB L 74619 | Springy plate consisting of three or more sheets. 1944. In German. | 1.50 |
| 1589-1593 PB L 74619 | Galvanized piston ring. 1945. In German. | 1.50 |
| 1594-1612 PB L 74619 | "Goetzolin" packing resistant to water, oil, fuel and cooling agents. 1944. In German. | 2.00 |
| 1613-1623 PB L 74619 | Horn piston ring. 1944. In German. | 1.50 |
| 1624-1629 PB L 74619 | Covering for welding rod. 1944. In German. | 1.50 |
| 1630-1643 PB L 74619 | Cementing agent. 1944. In German. | 1.50 |
| 1644-1651 PB L 74619 | Method for stressing springy piston rings of sintered iron. 1944. In German. | 1.50 |
| 1652-1653 PB L 74619 | Sintering of copper, aluminum, etc. 1945. In German. | 1.50 |
| 1654-1664 PB L 74619 | Packing by means of a disc spring. 1945. In German. | 1.50 |
| 1665-1670 PB L 74619 | Packing gland particularly for hot blast valves. 1943. In German. | 1.50 |
| 1671-1685 PB L 74619 | Sealing of joints particularly against high pressure and heat differences. 1944. In German. | 1.50 |
| 1686-1701 PB L 74619 | Cellular ring packing. 1944. In German. | 2.00 |
| 1702-1757 PB L 74619 | Piston for internal combustion engines. 1938. In German. | 6.00 |
| 1758-1776 PB L 74619 | Investigating the heat resistance of piston rings. 1939. In German. | 2.00 |
| 1777-1790 PB L 74619 | Method for the manufacture of piston rings. 1944. In German. | 1.50 |
| 1791-1809 PB L 74619 | Friction bearing. 1944. In German. | 2.00 |
| 1810-1822 PB L 74619 | Device for measuring radial pressure. 1943. In German. | 1.50 |
| 1823-1831 PB L 74619 | Process for producing tension in piston rings. 1944. In German. | 1.50 |
| 1832-1839 PB L 74619 | Device for the manufacture of metal covered packing rings. 1943. In German. | 1.50 |
| 1840-1841 PB L 74619 | Clutch for engines. 1943. In German. | 1.50 |
| 1842-1858 PB L 74619 | Tool for inserting and removing piston rings. 1944. In German. | 2.00 |
| 1859-1877 PB L 74619 | Testing device for shaft packings. 1943. In German. | 2.00 |
| 1878-1884 PB L 74619 | Ball bearing with packing. 1944. In German. | 1.50 |

1886-1888 PB L 74619 — Soft iron for packing rings. 1936. In German. 1.50

1889-1894 PB L 74619 — Method for producing chromium coverings. 1941. In German. 1.50

1895-1923 PB L 74619 — Chemical thermodynamics, kinetics and science of electrochemical properties of the "Zeitschrift für physikalische chemie", Vol. 191. By M Bodenstein, and others. Published by Becker & Erler K.G., Leipsig. 1942. In German. 3.00

1924-1948 PB L 74619 — Plate-like packing with at least one opening. 1941. In German. 2.50

1949-1971 PB L 74619 — Heavy duty gasket, particularly cylinderhead gasket for internal combustion engines. 1943. In German. 2.50

1972-1976 PB L 74619 — Machine part of metal, stressed by a sliding motion. 1943. In German. 1.50

1977-2025 PB L 74619 — Perlite casting. 1943. In German. 5.00

2026-2059 PB L 74619 — Pre-treating method for metallic parts for improving non-chipping deformations. 1943. In German. 3.50

2060-2082 PB L 74619 — Radially moving packing for axle bearings. 1943. In German. 2.50

2083-2129 PB L 74619 — Shaft packing. 1940. In German. 5.00

2130-2138 PB L 74619 — Packing for high pressures. 1942. In German. 1.50

2139-2170 PB L 74619 — "Facit" packing. 1945. In German. 3.50

2171-2191 PB L 74619 — Labyrinth to seal off penetrating liquids. 1943. In German. 2.50

2192-2196 PB L 74619 — Slip ring packing for shafts. 1944. In German. 1.50

2197-2201 PB L 74619 — Bag-like packing. 1937. In German. 1.50

2202-2205 PB L 74619 — Shaft packing. 1942. In German. 1.50

2206-2246 PB L 74619 — Sealing ring. 1941. In German. 4.50

2247-2250 PB L 74619 — Lens shaped packing that adjusts itself to different temperatures. 1943. In German. 1.50

2251-2254 PB L 74619 — Gasketing for flanges, cylinder blocks, etc., consisting of several layers. 1939. In German. 1.50

2255-2261 PB L 74619 — Packing for axles and shafts. 1937. In German. 1.50

2262-2269 PB L 74619 — Bi-metal piston ring. 1942. In German. 1.50

2270-2282 PB L 74619 — Piston with piston sealing. 1944. In German. 1.50

2283-2291 PB L 74619 — Packing particularly for axle bearings. 1941. In German. 1.50

2292-2298 PB L 74619 — Improvement on a stuffing box. 1943. In German. 1.50

2299-2316 PB L 74619 — Shaft packing resistant to high pressure and thermal differences. 1936. In German. 2.00

2317-2334 PB L 74619 — Packing for axle bearing housings. 1943. In German. 2.00

2335-2340 PB L 74619 — Packing ring with light metal surface. 1934. In German. 1.50

PB L 85134. LIST, H. Calculation of flow processes during gas exchange: I. General theoretical (basic theory). (Institute for Internal Combustion Engines Rept 20) Dec 1945. 103 p. Price: Mimeo-$2.75
This is the 20th report on research carried out by the Institute for Internal Combustion Engines during the last years of the war. This report deals with the development of a method of calculation to investigate the flow processes during gas exchange. This method allows the determination of the velocity and pressure course for any chosen manifold and cylinder arrangement in complete agreement with the actual facts. Fifteen diagrams are included. For a general survey of 42 research reports by this Institute see PB 85129.

PB L 85131. LIST, H. Investigation into suction manifolds of multi-cylinder carburetor engines. (Institute for Internal Combustion Engines Rept 7) Aug 1945. 41 p. Price: Mimeo-$1.25
This is the seventh report on research carried out by the Institute for Internal Combustion Engines during the last years of the war. This report deals with the uneven distribution of the fuel in the different cylinders of multi-cylinder carburetor engines. Forty-five diagrams and photographs are included. For a general survey of 42 research reports by this Institute, see PB 85129.

PB L 85133. LIST, H. and BERLIT, G. Loss repartition of the internal combustion engine: IV, Losses due to incomplete and dragging combustion and to heat transfer. (Institute for Internal Combustion Engines Rept 15) Dec 1945. 39 p. Price: Mimeo-$1.00
This is the 15th report on research carried out by the Institute for Internal Combustion Engines during the last years of the war. This report deals with the determination of partial efficiencies to be ascertained from the thermodynamic analysis of the diagram. It starts with the efficiency of the ideal engine. Then the partial efficiencies caused by imperfect chemical conversion, dragging combustion, and heat transfer are determined. Eleven diagrams are included. For a general survey of 42 research reports by this Institute see PB 85129.

PB L 85135. REYL, G. Determination by calculation of gas exchange processes: II. Approach method to calculate the flow processes during gas exchange. (Institute for Internal Combustion Engines Rept 21) Dec 1945. 59 p. Price: Mimeo-$1.50
This is the 21st report on research carried out by the Institute for Internal Combustion Engines during the last years of the war. This report deals with the approach method by Reyl. The effect a cylinder has on a manifold mounted in front of it or behind it, and the effect of the pressure waves in these manifolds on the pressure course in the cylinder is determined. To present the gas oscillations, vector diagrams are used. Sixteen diagrams are included. For a general survey of 42 research reports by this Institute see PB 85129.

PB L 85136. SCHMIDT, G. Thermodynamics of the gas turbine. (Institute for Internal Combustion Engines Rept 28) Jan 1946. 37 p. Price: Mimeo-$1.00
This is the 28th report on research carried out by the Institute for Internal Combustion Engines during the last years of the war. This report deals with the gas turbine in flight. The investigation makes no claim to completeness; they were to be the beginning of a planned comprehensive investigation of the thermodynamics of the gas turbine and to give a survey of the fundamental relations. Twenty diagrams are included. For a general survey of 42 research reports by this Institute see PB 85129.

PB L 73925. TEXTILE MACHINERY. (FIAT Microfilm Reel A 75, Frames 1-286). 1935-1946. 286 f. Price: Microfilm-$3.75 - Enlargement Print-$29.00
This reel consists of shop drawings by different firms manufacturing textile machinery in Germany. Temperature chart of anapron dryer by Friederiek Haas, Lennep, Rheinland. Layout for rayon staple crushing mill by C. G. Haubolt, Chemnitz. Punching and stretching machine, exhaust hood, filtering candle and sectional drawing of a centrifugal spinning machine of Spinnfaser A. G., Kassel. Synopsis of manufacturing procedure by Rheinische Kunstseide A. G., Ürdingen, Rheinland. Detail drawings of machines made by Erich Kiefer, Berlin-Stuttgart, with a number of photographs. Photo of the Maschinenfabrick Friederick Haas, Lennep, Rheinland. Pamphlet of PIV transmissions by Werner Reiner K. G., Bad Homburg. Automatic cellulose fiber press with detail drawings by Lindemann & Schmitzler, Düsseldorf. "WABAG" filters. Slubbing cutter and feeding machine by the Deutsche Spinnerei-Maschinenbau A. G., Ingolstadt a.D. Synopsis of apparatus and other equipment by Kalle & Co., Wiesbaden, and rubber funels, punching machines, pulp condenser, testing machine, passing centrifuge by Werner & Pfleiderer, Stuttgart. However, most of the frames will not reproduce well.

PB L 85132. WETMANN, W. and others. Loss repartition of the internal combustion engine: II, Losses during mixture preparation. (Institute for Internal Combustion Engines Rept 13) Oct 1945. 48 p. Price: Mimeo-$1.25
This is the 13th report on research carried out by the Institute for Internal Combustion Engines during the last years of the war. This report deals with: Losses during preparation of the fuel; Losses during conversion of the energy contained in the prepared fuel into heat; and, Losses during conversion of heat into useful power. Six diagrams are included. For a general survey of 42 research reports by this Institute see PB 85129.

## MEDICAL RESEARCH AND PRACTICE, INCLUDING CLINICAL APPLICATION OF DRUGS AND PHARMACEUTICALS

PB M 86323. FIBOR, WARFIELD M. and BLISS, ELEANOR A. Control of infections. Progress report No. 5. Feb 1944. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
Thirteen patients suffering from skin infections of various kinds and degrees were subjected to treatment with newer sulfonamides, penicillin, and Dakin solution respectively. Final results are pending. The experiments were carried out by the Committee on Medical Research of the Office of Scientific Research and Development.

* PB M 81639. GOEBEL, H. and SCHAEFER, H. Salt and esterase concentration in the blood in relation to altitude resistance. (FIAT Final Rept 1174) Apr 1947. 7 p. Price: Mimeo-25¢
The potassium and calcium contents and the quotient of the plasma have no influence on the physiological altitude resistance of the human body. Nor does the concentration of blood cholinesterase show any relation to it. There is only a relation between blood pressure and the Ca contents in ascension experiments. In German.

* PB M 81613. HAWKING, F. Tropical medicine at Hamburg and Elberfeld. (BIOS Final Rept 1387, Item 24) Feb 1947. 25 p. Price: Microfilm-$1.50 - Photostat-$3.00
Seven members of the Institut für Schiffs und Tropenkrankheiten, Hamburg and two members of the I. G. Farbenindustrie, Elberfeld, were interviewed concerning work at the two places.

PB M 80799. HOUSEWRIGHT, R. D. and others. The relative effectiveness of purified penicillin fractions against Bacillus anthracis in vitro and in vivo. n. d. 17 p. Price: Microfilm-$1.00 - Photostat-$2.00
The relative activities of penicillins commercial, F, G, K and X are 38, 52, 100, 29 and 160 respectively against Bacillus anthracis in vitro. The relative effectiveness of these same penicillins in protecting mice against experimental anthrax are 100, 80, 100, 40 and 107. The effectiveness of penicillin K against anthrax in mice is greater than its reported effect against streptococcus and pneumococcus infections in mice. The penicillin fractions of choice in treatment of anthrax in mice are penicillins X, G, and F. In general, these results agree with those obtained by other workers on streptococcus and pneumococcus infections in mice and syphilis and gonorrhea in man.

## PHOTOGRAPHIC AND OPTICAL GOODS (INCLUDING

PB L 19921. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Patent applications from the Photo and Artificial Silk Patent Division, Wolfen, 1942-1943. (FIAT Microfilm Reel Patents 145) Mar 1946. 988 f. Price: Microfilm-$6.00 - Enlargement print-$99.00
A number of the items included in this film pertain to photographic equipment, emulsions, technique, etc. (color and black-and-white). For abstracts of the film and of the individual papers, see the Section: "Patents: Chemicals and Allied Products" of this issue of the Bibliography.

PB L 73153. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Calculations for microscope and projection objectives. (FIAT Microfilm Reel I-33, Frames 1902-2774). 1904-1932. 873f. Price: Microfilm-$6.00 - Enlargement print-$87.50.
This FIAT microfilm reel consists of calculations and drawings for microscope and projection objectives and oculars as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 1902-1913 PB L 73153 | Apochromat f=16mm. Calculations. 1908. In German. | $1.50 |
| 1914-1926 2071-2153 PB L 73153 | Apochromat f=2 mm for oil immersions. Calculations and drawings. 1925-1926. In German. | 10.00 |
| 1927-2070 PB L 73153 | Objective "90", f=0, 3065cm. Calculations. 1925-1926. In German. | 4.50 |
| 2154-2193 PB L 73153 | Apochromat f=4 mm for paraffin oil immersion. Calculations and drawing. 1926. In German. | 4.00 |
| 2194-2250 PB L 73153 | Documents pertaining to a camera exchange agreement between Leitz and Hanns Horst, Nürnberg. 1912. In German. | 6.00 |
| 2251-2450 PB L 73153 | Calculations for microscope objective with and without oil immersion, f = 2mm. 1904. In German. | 20.00 |
| 2451-2479 PB L 73153 | Ramsden's ocular 10 x for micrometer with a wide angle of view f=27, 26 mm and f=34, 41mm. Calculations. 1909. In German. | 3.00 |

2480-2574 PB L 73153 Minor miniature microscope. Calculations for optics and photographs of the instrument. 1924. In German. 9.50

2575-2593 PB L 73153 Microscope objective for water immersion, 40 x, f=4.2mm. Calculations. 1932. In German. 2.00

2594-2612 PB L 73153 Metallographic objectives, 100 x f=2,5 mm, a=1,30. Calculations. 1932. In German. 2.00

2613-2641 PB L 73153 Microscope objective A.J.M. 3, 90 x, f=2.8mm, a=1,32. Calculations and drawings. 1932. In German. 3.00

2642-2681 PB L 73153 Orthoscopic ocular according to Kellner, f=25mm. Calculations. 1908. In German. 4.00

2682-2739 PB L 73153 Objective for methylene - iodide immersion, a=1.60, 127 X. Calculations and drawing. 1930. In German. 6.00

2740-2754 PB L 73153 Triplet for film projection with Huyghensian ocular, 4x. Calculations. 1929. In German. 1.50

2755-2771 PB L 73153 School microscope table of interchangeable lenses, description and Leitz pamphlets. 1927. In German. 2.00

2772-2774 PB L 73153 Objective composed of three separable members, f=8.29mm, f=11,52mm and f=24,17mm. Drawing and data. n.d. In German. 1.50

PB L 73156. LEITZ, ERNST G.M.B.H., WETZLAR, GERMANY. Calculations and drawings for microscope and other objectives. (FIAT Microfilm Reel I 36, Frames 4462-5523) 1898-1932. 1062 f. Price: Microfilm-$6.00 - Enlargement print-$106.50. This FIAT microfilm reel consists of calculations and drawings for microscope objectives and eyepieces, including articles dealing with microscopy and allied subjects. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 4462-4522 PB L 73156 | Objective f=4.0 mm, A=0.68. Calculations and drawings. 1914. In German. | $ 6.50 |
| 4523-4529 PB L 73156 | Photographs of cast iron sections made by Achromat 4, Periplan 8x, diaphragm 1 mm and the same achromat with diaphragm 2 mm. n.d. In German. | 1.50 |
| 4530-4535 PB L 73156 | Apochromat f=2 mm. Drawing, data and calculations. 1923. In German. | 1.50 |
| 4536-4546 PB L 73156 | Substitution apochromat f=16 mm, 11x. Calculations. 1921. In German. | 1.50 |
| 4547-4633 PB L 73156 | Apochromet f=2 mm. Calculations and drawing. 1903. In German. | 9.00 |
| 4634-4679 PB L 73156 | Ramsden type achromatic oculars f=59.19 mm. 3x, 10x and 15x. Calculation. 1929. In German. | 5.00 |
| 4680-4771 PB L 73156 | Microscope optics for trichinoscope objective f=30,1 mm, Ramsden's ocular 12x. Calculations. 1932. In German. Includes an article on a new Zeiss trichinoscope projection apparatus reprinted from the "Berliner Tierärztliche Rundschau" No.44, 1932. | 9.50 |
| 4772-4793 PB L 73156 | Cassia oil immersion objective. Drawing and calculations. 1903. In German. | 2.50 |
| 4794-4809 PB L 73156 | Achromat 1". Aplanatic loupe 6x. Calculations. 1907. In German. | 2.00 |
| 4810-4858 PB L 73156 | UO objective 35x, dry, for water and oil immersion. Drawings and calculations. 1933. In German. | 5.00 |
| 4859-4881 PB L 73156 | Apochromat 45x, f=4 mm, A=0.95. Drawing and calculations. n.d. In German. | 2.50 |
| 4882-4908 PB L 73156 | Apochromat 27.5x, f=8 mm, A=0.68. Drawing and calculations. n. d. In German. | 3.00 |
| 4909-4959 PB L 73156 | Indicator eyepiece 1909/1910. Drawing, description and calculations. 1911. In German. | 5.50 |
| 4960-5020 PB L 73156 | Fluorite objective 1/12 with two fluorite lenses. Drawings and calculations. 1902. In German. | 6.50 |
| 5021-5125 PB L 73156 | Fluorite objective 1/10, developed from objective 1/12. Drawings and calculations. 1909. In German. | 1.50 |
| 5126-5204 PB L 73156 | Photographic objective consisting of two triplets, f=217 mm. Drawings and calculations. 1898. In German. | 8.00 |
| 5205-5249 PB L 73156 | Microscope objective for oil immersion, f=3 mm. Drawing and calculations. 1931. In German. | 4.50 |
| 5250-5265 PB L 73156 | Calculation of the error in reading the meniscus in pipettes when directly under the lens. Article and calculations. 1908. In German. | 2.00 |
| 5266-5275 PB L 73156 | Abbe's test plate for examination of the spherical and chromatic aberration of microscope objectives. Article published by the Carl Zeiss, Jena optical works. 1929. In German. | 1.50 |
| 5276-5318 PB L 73156 | Zeiss paraboloid condenser. Notes and Leitz articles on a reflex condenser for dark-field observation of living micro organisms. 1929. In German. | 4.50 |
| 5319-5389 PB L 73156 | Anastigmat f=400 mm for megascopic projection. Drawings and calculations. 1901. In German. | 7.50 |
| 5390-5453 PB L 73156 | Fluorite apochromat. Drawings and calculations. 1906. In German. | 6.50 |
| 5454-5523 PB L 73156 | Microscope objective 9a, f=2.16 mm. Date, drawings and calculations. 1903. In German. | 7.00 |

PB L 73160. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Calculations and drawings for microscope objectives and other lenses. (FIAT Microfilm Reel I 40, Frames 8452-9650) 1904-1933. 1199 f. Price: Microfilm-$6.00 - Enlargement print-$120.00
This FIAT microfilm reel consists of calculations and drawings for microscope and projection objectives, loupes, condensers, etc., and Leitz pamphlets on microscopes and microscope tubes. Individual items are listed below and will be available as enlargement prints only; the entire reel may be

purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 8452-8558<br>PB L 73160 | Objective U.O., 90x, for water immersion. Calculations. 1932. In German.<br>This is a continuation of Reel I 39, PB 73159. | 1.50 |
| 8559-8632<br>PB L 73160 | Objective 6, apochromat f=4 mm. Drawings and calculations. n.d. In German. | 7.50 |
| 8633-8654<br>PB L 73160 | Binocular loupe with inclined viewer, 8x, 12x and 18x, f=31.25 mm, f=20.83 mm and f=13.9 mm. Drawing and calculations. 1933. In German. | 2.00 |
| 8655-8694<br>PB L 73160 | Leitz prospectus for binocular loupes and stereo-microscopes. n.d. In German. | 4.00 |
| 8695<br>PB L 73160 | Zeiss binocular loupe 8x with Ramsden's ocular. Drawing and data. n. d. In German. | 1.50 |
| 8696-8833<br>PB L 73160 | Objective for oil immersion 1/7, f=3.43 mm. A=1.00. Drawings and calculations. 1914. In German. | 14.00 |
| 8834-8872<br>PB L 73160 | Objective 4, achromat 20x, f=9.00 mm. A=0.45. Drawing and calculations. 1926. In German. | 4.00 |
| 8873-8935<br>PB L 73160 | Apparatus for eardrum examination. Drawings, description, calculations and correspondence. 1911. In German. | 6.50 |
| 8936-9002<br>PB L 73160 | Optics for profile drawing apparatus. Drawings, data and calculations. n. d. In German. | 8.00 |
| 9003-9023<br>PB L 73160 | Objective for water immersion, 90x f=2.07 A=1.20. Drawings and calculations. 1908. In German. | 2.50 |
| 9024-9095<br>PB L 73160 | Achromatic objective 4, f=9.7 mm, A=0.40. Drawing and calculations. 1922. In German. | 7.50 |
| 9096-9175<br>PB L 73160 | Achromatic objective 4a, f=12,6 mm. Drawing and calculations. 1904. In German. | 8.00 |
| 9176-9269<br>PB L 73160 | Metallic sections and other microphotographs taken with objective 5 with Huyghenian ocular 8x. Also calculations. 1927. In German. | 9.50 |
| 9270-9399<br>PB L 73160 | Achromatic objective 6 without cover glass f=4 mm, A=0.78. Calculations and drawings. 1904 and 1917. In German. | 13.00 |
| 9400-9405<br>PB L 73160 | Projection objective f=39.5 mm and 20.4 mm. Drawings and calculations. 1925. In German. | 1.50 |
| 9406-9463<br>PB L 73160 | Prism attachment for binocular microscope according to Metz. Drawings and calculations. 1925. In German. | 6.00 |
| 9464-9507<br>PB L 73160 | Apochromat 62x, f=2.96 mm A=0.95. Drawing and calculations. 1929. In German. | 4.50 |
| 9508-9530<br>PB L 73160 | Aplanatic condenser A=1,4. Drawing and calculations. 1922. In German. | 2.50 |
| 9531-9539<br>PB L 73160 | Microscope tube with viewer inclined 30°, 100x. Drawings and calculations. 1933. In German. | 1.50 |
| 9540-9548<br>PB L 73160 | Leitz prospectus for microscope tubes. n. d. In German. | 1.50 |
| 9550-9569<br>PB L 73160 | Reading microscope. Drawings and calculations. 1915. In German. | 2.00 |
| 9570-9605<br>PB L 73160 | Objective 3 TK, 3.5x and 10x. Drawing and calculations. 1931. In German. | 4.00 |
| 9606-9650<br>PB L 73160 | Prospectus for Leitz microscopes with large angle of view. 1930. In German. | 4.50 |

PB L 73157. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Calculations and drawings for objectives and loupes, etc. (FIAT Microfilm Reel I 37, Frames 5524-6537) 1898-1934. 1014 f. Price: Microfilm-$6.00 - Enlargement print-$101.50.

This FIAT microfilm reel consists of calculations and drawings for objectives, loupes, condensers and optical systems as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 5524-5593<br>PB L 73157 | Fluorite objective 3 (Apochromat 3). f=15.5 mm. A=0.26. Drawings and calculations. 1913. In German. | $ 7.00 |
| 5594-5615<br>PB L 73157 | Reading loupe for apertometer. 6x, f=55 mm. Drawing and calculations. 1929. In German. | 2.50 |
| 5616-5742<br>PB L 73157 | Drawings and data on objectives. 1898-1902. In German. | 13.00 |
| 5743-5772<br>PB L 73157 | Sighting device. Description, drawings, formulas and calculations. 1915. In German. | 3.00 |
| 5773-5797<br>PB L 73157 | Formulas for the calculation of spherical aberration. 1906. In German. | 2.50 |
| 5798-5880<br>PB L 73157 | Five-digit logarithmic tables. 1906. In German. | 8.50 |
| 5881-5883<br>PB L 73157 | Teleobjective for Makam. f=246.3 mm. Drawings. n. d. In German. | 1.50 |
| 5884-5928<br>PB L 73157 | Tube with inclined viewer. Drawings and calculations. 1934. In German. | 4.50 |
| 5928-5930<br>PB L 73157 | Achromat 6 and achromat 3. Drawings and data. 1934. In German. | 1.50 |
| 5931-5942<br>PB L 73157 | Data and drawings for U.Q objectives from 3.6x to 100x, also for water and oil immersion. 1934. In German. | 1.50 |
| 5943-6010<br>PB L 73157 | Fluorite objective Bak 1. f=16 mm. Drawing and calculations. 1934. In German. | 7.00 |
| 6011-6089<br>PB L 73157 | Objective according to Greenough f=48 mm. 2.7x. Drawings and calculations. n. d. In German. | 8.00 |
| 6090-6129<br>PB L 73157 | New Greenough objective, 12x. Drawings and calculations. 1925. In German. | 4.00 |

| | | |
|---|---|---|
| 6130-6157<br>PB L 73157 | Tables for enlargement and angles of view of binocular microscope with various objectives and oculars. n. d. In German. | 3.00 |
| 6158-6164<br>PB L 73157 | Wide-angle apochromat f=20 mm. Drawing and calculations. 1934. In German. | 1.50 |
| 6165-6262<br>PB L 73157 | Objective for oil immersion 1/12, f=2.0 mm. A 1.2. Drawings and calculations. 1924. In German. | 10.00 |
| 6263-6388<br>PB L 73157 | Achromatic objective 1K., 3.2x f=23.65 mm. Drawing and calculations. 1926. In German. | 13.00 |
| 6389-6453<br>PB L 73157 | Periplanatic objective f=42.8 mm. Calculations and drawings. 1915-1916. In German. | 6.50 |
| 6454-6537<br>PB L 73157 | Condenser for mineralogical microscope, A=1.00 to 1.45, f=10 mm. Drawings, data and calculations. 1911-1912 and 1917. In German. | 8.50 |

PB L 73154. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Calculations and drawings for objectives, loupes and condensers. (FIAT Microfilm Reel I 34, Frames 2776-3719) 1896-1945. 944 f. Price: Microfilm-$6.00 - Enlargement print-$94.50.
This FIAT microfilm reel consists of drawings and calculations for microscope objectives, loupes and condensers as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 2776-2785<br>PB L 73154 | Triplet, each member of which can be used as a separate objective. Calculations. n.d. In German.<br>This is a continuation of Reel I-33, PB L 73153. | $ 1.50 |
| 2786-2787<br>PB L 73154 | Condenser for film projection apparatus Xb. Data, drawing and formulas. 1927. In German. | 1.50 |
| 2788-2863<br>PB L 73154 | Objective for trichinoscope projection apparatus. Drawings and calculations. n. d. In German. | 8.00 |
| 2864-2868<br>PB L 73154 | Reprint of an article on trichinoscope projection in stockyards published in the "Deutsche Schlacht- und Viehhof-Zeitung," Vol. 26, 1911. In German. | 1.50 |
| 2869-2903<br>PB L 73154 | Achromat 3b, 14x f=13.25 mm, A=0.40. Drawing and calculations. 1927 and 1935. In German. | 3.50 |
| 2904-2913<br>PB L 73154 | Apochromat 3F, 10x. Drawing and calculations. 1921. Produced 1931. In German. | 1.50 |
| 2914-2950<br>PB L 73154 | Achromat 2b, 8x f = 20 mm. Drawing and calculations. 1921. In German. | 4.00 |
| 2951-2962<br>PB L 73154 | Achromat 1b, 4.2x f = 31.72 mm, A=0.15. Drawing and calculations. 1921. In German. | 1.50 |
| 2963-2983<br>PB L 73154 | Achromat 6, 45x f=4.0 mm, A=0.85. Drawing and calculations. 1921. In German. | 2.50 |
| 2984-3035<br>PB L 73154 | Binocular loupe. 3 1/2x to 14x. Calculations. Checked 1945. In German. | 5.50 |
| 3036-3093<br>PB L 73154 | Pfeiffer loupes, 20x, 40x and 85x. Calculations. 1912. In German. | 6.00 |
| 3094-3189<br>PB L 73154 | Large condenser 2. Drawings and calculations. 1908. In German. | 10.00 |
| 3190-3247<br>PB L 73154 | Scotch objectives. Calculations. 1896. In German. | 6.00 |
| 3248-3292<br>PB L 73154 | Achromat for oil immersion, f=3.4 mm. A=1.00. Drawing and calculations. 1922. In German. | 4.50 |
| 3293-3304<br>PB L 73154 | Achromat 8 without fluorite lens f=2.5 mm, A=0.87. Drawings and calculations. 1920. In German. | 1.50 |
| 3305-3352<br>PB L 73154 | Achromat for oil immersion 12.6x f = 16 mm. A=0. 25. Drawing and calculations. 1924. In German. | 5.00 |
| 3353-3380<br>PB L 73154 | Achromat for oil immersion 25x, f=8 mm, A=0.85. Drawing and calculations. 1924. In German. | 3.00 |
| 3381-3394<br>PB L 73154 | Achromat 2, 5.8x f=24.4 mm, A=0.18. Drawing and calculations. 1926. In German. | 1.50 |
| 3395-3497<br>PB L 73154 | Fluorite objective 6aa with two fluorite lenses. Calculations. 1913. In German. | 1.50 |
| 3498-3518<br>PB L 73154 | Fluorite objective 7a. 60.8x f=3.23 mm. Drawing and calculations. 1908. In German. | 2.50 |
| 3519-3559<br>PB L 73154 | Fluorite objective 8a. 70x, f = 2.65 mm A=0.90. Drawing and calculations. 1929. In German. | 4.50 |
| 3560-3569<br>PB L 73154 | Fluorite objective for oil immersion 1/16a f=1.64 mm. A = 1.32. Drawing and calculations. 1908. In German. | 1.50 |
| 3570-3633<br>PB L 73154 | Fluorite objective for oil immersion 1/12a. 95x, f = 1.93 mm, A=1.32. Drawing and calculations. 1927. In German. | 7.50 |
| 3634-3651<br>PB L 73154 | Fluorite objective for oil immersion 1/10a. 71.7x, f= 2.6 mm. A=1.33. Drawing and calculations. 1921. In German. | 2.00 |
| 3652-3668<br>PB L 73154 | Fluorite objective for oil immersion 9a 88.7x f=2.1 mm. A=0.90. Drawing and calculations. n. d. In German. | 2.00 |
| 3669-3719<br>PB L 73154 | Achromat for oil immersion 1/12, 90x, f = 2.0 mm. A = 1.25. Calculations. 1934. In German. | 5.50 |

PB L 73152. LEITZ, ERNST, G. M. B. H., WETZLAR, GERMANY. Drawings for microscopes, projection apparatus and allied optical instruments. (FIAT Microfilm Reel I-32, Frames 1296-1898). 1934-1943. 603 f.
Price: Microfilm-$6.00 - Enlargement print-$60.50
This FIAT microfilm reel consists of drawings for microscopes, projection and drawing apparatus and allied optical instruments and their accessories. Individual items are listed below and will be available as enlargement prints only: the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German. Many frames are indistinct or illegible.

| Frames | Title | Price |
|---|---|---|
| 1296-1311 PB L 73152 | Concrete comparison microscope. Drawings. Illegible. In German. | $2.00 |
| 1312-1334 PB L 73152 | Workshop microscope. Drawings. 1942. Some frames will not reproduce well. In German. | 2.50 |
| 1335-1343 PB L 73152 | Measuring microscope with intermediate image. Drawings. 1942. In German. | 1.50 |
| 1344-1347 PB L 73152 | Simple measuring microscope. Drawings. 1942. In German. | 1.50 |
| 1348-1350 PB L 73152 | Goniometer eyepiece. Drawings. 1936. In German. | 1.50 |
| 1351-1353 PB L 73152 | Projection apparatus. Drawings. Will not reproduce well. In German. | 1.50 |
| 1354-1360 PB L 73152 | Measuring microscope for use with machine tools. Drawings. 1937. In German. | 1.50 |
| 1361-1363 PB L 73152 | Horizontal comparison microscope. Drawings. 1937. Illegible. In German. | 1.50 |
| 1364-1368 PB L 73152 | Profile measuring microscope. Drawings. 1936. In German. | 1.50 |
| 1369 PB L 73152 | Simple goniometric ocular. Drawing. 1935. In German. | 1.50 |
| 1370-1376 PB L 73152 | Centering device for workshop microscope. Drawings. 1943. In German. | 1.50 |
| 1377-1382 PB L 73152 | Measuring microscope with 10 mm displacement. Drawings. 1937. Indistinct. In German. | 1.50 |
| 1383-1384 PB L 73152 | Microscope for precision grinding machine. Drawings. 1941. In German. | 1.50 |
| 1385-1413 PB L 73152 | Accessories for workshop microscope. Drawings. 1936-1941. Indistinct. In German. | 3.00 |
| 1414-1419 PB L 73152 | Reading microscope for workshop use. Drawings. 1941. In German. | 1.50 |
| 1420-1424 PB L 73152 | Surface examination microscope. Drawings. 1937. In German. | 1.50 |
| 1425-1427 PB L 73152 | Projection equipment for Brinell hardness tester. Drawings. 1937. In German. | 1.50 |
| 1428-1433 PB L 73152 | Measuring microscope for grinding machines. Drawings. 1940. Some frames illegible. In German. | 1.50 |
| 1434 PB L 73152 | Motor drive for workshop microscope. Drawing. Indistinct. In German. | 1.50 |
| 1435-1445 PB L 73152 | Profile microscope Model IIa. Drawings. 1943. In German. | 1.50 |
| 1446 PB L 73152 | Simple measuring microscope for use with machine tools. Drawing. 1937. In German. | 1.50 |
| 1447-1449 PB L 73152 | Simple measuring microscope. 25 x 25 mm. Drawings. 1937. Partly indistinct. In German. | 1.50 |
| 1450-1452 PB L 73152 | Comparison microscope for surface examination. Drawings. Indistinct. In German. | 1.50 |
| 1453-1455 PB L 73152 | Tiltable measuring microscope for use with machine tools. Drawing. 1936. In German. | 1.50 |
| 1456-1459 PB L 73152 | Rotary mechanical stage, 360°. Drawings. 1936. In German. | 1.50 |
| 1460-1464 PB L 73152 | Focusing microscope for "Vomag". Drawings. 1939. In German. | 1.50 |
| 1465-1475 PB L 73152 | Plane table 150 x 150 cm. Drawings. In distinct. In German. | 1.50 |
| 1476-1490 PB L 73152 | Reading microscope with precision eyepiece. Drawings. 1937. Partly indistinct. In German. | 1.50 |
| 1491-1498 PB L 73152 | Projection equipment for goniometric oculars. 1939. In German. | 1.50 |
| 1499-1512 PB L 73152 | Plane table with glass ruler. Drawings. 1941. Some frames may not reproduce well. In German. | 1.50 |
| 1513-1514 PB L 73152 | Graduated scale for comparison microscope "Strassmann". Drawings. 1942. In German. | 1.50 |
| 1515-1521 PB L 73152 | Center punch. Drawings. Indistinct. In German. | 1.50 |
| 1522-1526 PB L 73152 | Illumination equipment for plane table with glass ruler. Drawings. 1940. Partly indistinct. In German. | 1.50 |
| 1527-1532 PB L 73152 | Profile projection equipment for plane table. Drawings. 1942. In German. | 1.50 |
| 1533-1537 PB L 73152 | Measuring microscope for use with tooling machines. Model 1941. Drawings. 1942. In German. | 1.50 |
| 1538-1546 PB L 73152 | Reading microscope with precision eyepiece. Drawings. 1941. In German. | 1.50 |
| 1547-1548 PB L 73152 | Collimator f= 600 mm. Drawings. 1942. In German. | 1.50 |
| 1549 PB L 73152 | Illumination equipment for workshop microscope. Drawing. 1942. In German. | 1.50 |
| 1550 PB L 73152 | Nosepiece revolver for microscope used with machine tools. Drawing. 1942. In German. | 1.50 |
| 1551-1554 PB L 73152 | Goniometric eyepiece. Drawings. 1942. In German. | 1.50 |
| 1555-1576 PB L 73152 | Microscope for surface examination, Forster model. Drawings. 1943. In German. | 2.50 |
| 1577-1578 PB L 73152 | Measuring microscope for Schmidt and Schaud. Drawings. 1943. In German. | 1.50 |
| 1579-1599 PB L 73152 | Measuring microscope for machine tools. Drawings. 1936. Some indistinct frames. In German. | 2.50 |
| 1600-1613 PB L 73152 | "St. F." Drawings. Indistinct. In German. | 1.50 |
| 1614-1636 PB L 73152 | Large comparison microscope. Drawings. 1935. In German. | 2.50 |
| 1637 PB L 73152 | Precision measuring eyepiece. Drawing. 1943. In German. | 1.50 |
| 1638-1639 PB L 73152 | Base slide microtome. Drawings. 1935. In German. | 1.50 |
| 1640-1649 PB L 73152 | Large base slide microtome. Drawings. 1935. In German. | 1.50 |
| 1650-1693 PB L 73152 | Microtomes for various purposes. Drawings. 1935-1937. Some frames may not reproduce well. In German. | 4.50 |
| 1694-1699 PB L 73152 | Large plane table. Drawings. 1937. In German. | 1.50 |
| 1700-1712 PB L 73152 | Profile projection and drawing apparatus. Drawings. 1939. In German. | 1.50 |

1713-1715 PB L 73152 Simple plane table. Drawings. 1938. In German. 1.50

1716-1728 PB L 73152 Arc lamp for large profile projection and drawing apparatus. Drawings. 1937 (?) Indistinct. In German. 1.50

1729-1731 PB L 73152 Gear wheel projection equipment. Drawings. 1935. In German. 1.50

1732-1734 PB L 73152 Coordinate table for profile projection apparatus. Indistinct. In German. 1.50

1735-1738 PB L 73152 Coordinate table for workshop microscope. Drawings. 1937. In German. 1.50

1739-1743 PB L 73152 Large diagonal table for profile projection apparatus. Drawings. 1934. In German. 1.50

1744 PB L 73152 Spinning nozzle testing apparatus for Panphot equipment. Drawing. 1940. Indistinct. In German. 1.50

1745-1766 PB L 73152 Focusing screen profile projection apparatus. Drawings. 1938. In German. 2.50

1767-1774 PB L 73152 Movable drawing table for profile drawing apparatus. Drawings. 1938. In German. 1.50

1775-1779 PB L 73152 Equipment for cutting edge examination. Drawings. 1937. In German. 1.50

1780-1781 PB L 73152 Plane table model 30B. Drawings. 1938. In German. 1.50

1782-1794 PB L 73152 Stand for focusing screen projection apparatus. Drawings. 1937. In German. 1.50

1795-1834 PB L 73152 Post office projection apparatus. Drawings. 1936. In German. 4.00

1835-1842 PB L 73152 "Kolm" projection apparatus. Drawings. 1935. Some frames indistinct. In German. 1.50

1843-1880 PB L 73152 Telephone call counting stand for Katowice and Krol. Huta. Drawings. 1933. Many frames illegible. In German. 4.00

1881-1885 PB L 73152 Diving bell for 10 meter-film Leica camera. Drawings. 1943. In German. 1.50

1886-1888 PB L 73152 Reflex optics. Drawings. 1943. In German. 1.50

1889-1892 PB L 73152 Electric furnace for dilatometers. Drawings. 1938. In German. 1.50

1893-1894 PB L 73152 Projectile turning apparatus. Drawings. 1936. In German. 1.50

1895 PB L 73152 Polarization curves. Diagram. nd. In German. 1.50

1896-1898 PB L 73152 Curves showing focusing precision of Leitz and Zeiss microscopes. 1941. In German. 1.50

PB L 73150. LEITZ, ERNST, G. M. B. H., WETZLAR, GERMANY. Parts lists and drawings for dilatometers, microscopes, projection apparatus, etc. (FIAT Microfilm Reel I 30, Frames 4-937). 1921-1946 934f.
Price: Microfilm-$6.00 - Enlargement-$93.50
This FIAT microfilm reel consists of parts lists and drawings for dilatometers and accessories, projection apparatus, microscopes etc. and electrical equipment for various optical instruments. Individual items are listed below and will be available as enlargement prints only: the entire reel may be pruchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items for this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 4-21 PB L 73150 | Equipment for testing photographic plates and films. Drawings and parts list. 1935. In German | $2.00 |
| 22-38 PB L 73150 | Correspondence between Ernst Leitz G.m.b.H. and Hartman and Braun A.G. Frankfurt-Main in regard to the optics for a dilatometer. 1930. In German | 2.00 |
| 39-46 PB L 73150 | Cross-hair collimator. Parts list and drawings. 1935. In German | 1.50 |
| 47-57 PB L 73150 | Electric furnace for a dilatometer. Parts list and drawings. 1931. In German. | 1.50 |
| 58-65 PB L 73150 | Intermediate chamber, 420 x 420 mm. Parts list and drawings. 1938. In German. | 1.50 |
| 66-69 PB L 73150 | Large projection cassette 420 x 420 mm. Parts list and drawings. 1931. In German. | 1.50 |
| 70-123 PB L 73150 | Expansion calibrating device for dilatometer UDDA. Parts lists and drawings. 1935. In German. | 5.50 |
| 124-163 PB L 73150 | Heating microscope with photographic registration. Parts list and drawings. 1940. In German. | 4.00 |
| 164-245 PB L 73150 | Furnace for heating rare metals up to 1600°C. Parts list and drawings. 1933. In German. | 8.50 |
| 246-269 PB L 73150 | Profile testing apparatus. Drawings. 1934. In German. | 2.50 |
| 270-287 PB L 73150 | Dilatometer for subjective observation. Drawings. 1940. In German. | 2.00 |
| 288-299 PB L 73150 | Profilm projection apparatus. Parts list and drawings. 1934. In German. | 1.50 |
| 300-305 PB L 73150 | Dilatometers "HV" and "H". Parts and drawings. 1935. In German. | 1.50 |
| 306-413 PB L 73150 | Dilatometer H.T.V.E. Drawings. 1941 1942. In German. | 11.00 |
| 414-420 PB L 73150 | Electric furnace for dilatometer. Parts list and drawings. 1934. In German. | 1.50 |
| 421-451 PB L 73150 | Time registration drum for dilatometers. Parts list and drawings. 1935. In German. | 3.50 |
| 452-469 PB L 73150 | Electromagnetic device for time registration. Parts list and drawings. 1935. In German. | 2.00 |
| 470-475 PB L 73150 | "Heraeus" rare metal furnace for dilatometers. Parts list and drawings. 1938. In German. | 1.50 |
| 476-488 PB L 73150 | Vacuum and low-temperature control arrangement for dilatometers UDDA and H.T.V.E. Drawings. 1939. In German. | 1.50 |
| 489-503 PB L 73150 | Illumination arrangement for gear test stand. Drawings. 1939. In German. | 1.50 |
| 504-535 PB L 73150 | Projection apparatus for scale testing. Parts list and drawings. 1940. In German. | 3.50 |
| 536-566 PB L 73150 | Bacteriological microscope. Drawings. 1941. In German. | 3.50 |

567-593 PB L 73150 Leucocyte counting apparatus. Drawings. 1941. In German. 3.00

594-604 PB L 73150 Standard Profilux projection apparatus. Drawings. 1943. In German. 1.50

605-631 PB L 73150 Focimeter. Drawings and parts list. 1937. In German. 3.00

632-635 PB L 73150 Standard Leitz instrument plates. Drawings. 1929. In German. 1.50

634-715 PB L 73150 Leica shutter testing equipment. Drawings and parts list. 1946. In German. 8.50

716-745 PB L 73150 Focal plane shutter testing equipment. Drawings. 1946. In German. 3.00

746-757 PB L 73150 Dividing machine. Drawings. 1921. In German. 1.50

758-766 PB L 73150 Cone cutters. Drawings. 1923. In German. 1.50

767-769 PB L 73150 Knurling attachments for the index automat. Drawings. 1929. In German. 1.50

770 PB L 73150 Transformer 110 and 220 volt. Drawing. 1930. In German. 1.50

771-789 PB L 73150 Transformer for a 12 volt 100 watt lamp. Drawings. 1942. In German. 2.00

790-793 PB L 73150 Choke for sodium vapor lamp. Drawings. 1940. In German. 1.50

794-798 PB L 73150 Transformer for special Leitz lamp 6 volt 5 amp. Drawings and parts list. 1939. In German. 1.50

799-805 PB L 73150 Choke for mercury lamp Q 300. Drawings. 1940. In German. 1.50

806-815 PB L 73150 Transformer for surface testing microscope. 1941. In German. 1.50

816-825 PB L 73150 Transformer for special Leitz lamp 8 volt 0.6 amp. Parts list and drawings. 1941. In German. 1.50

826 PB L 73150 Transformer for heating table "Meygand". Drawing. 1944. In German. 1.50

827-937 PB L 73150 Electrical equipment for Mignon lamp. Drawings. 1938. In German. 11.50

**PB L 73162. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Articles on optical topics and calculations and drawings for lenses and optical systems. (FIAT Microfilm Reel I-42, Frames 1010 - 2348) 1891-1932. 1339 F. Price: Microfilm-$6.00 - Enlargement print-$134.00. This FIAT microfilm reel consists of a number of articles on optical topics and calculations and drawings for microscope objectives, oculars and whole systems, photographic and other objectives and prisms as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.**

| Frames | Title | Price |
|---|---|---|
| 1010-1132 PB L 73162 | (Continued from Reel I-41 - PB 73161) Photographic objectives - Experimental calculations. F=109.6 mm. Drawings. n. d. In German. | $2.50 |
| 1133-1137 PB L 73162 | Dark-field condensers. Drawings and data. 1928. In German. | 1.50 |
| 1138-1164 PB L 73162 | Objective for heating microscopes. Drawing, calculations and Leitz pamphlet on heating microscopes. 1926. In German. | 3.00 |
| 1165-1187 PB L 73162 | Reprint of an article by E. Lihotzky on microscopes and double oculars for binocular and stereoscopic observation published in the "Zeitschrift für wissenschaftliche mikroskopie and mikroskopische Technik" Vol. 41. 1924. In German. | 2.50 |
| 1188-1198 PB L 73162 | Reprint of an article by E. Lihotzky on the compensation for errors caused by faulty cover glasses published in the "Zeitschrift für wissenschaftliche mikroskopie und mikroskopische Technik," Vol. 46. 1929. In German. | 1.50 |
| 1199-1204 PB L 73162 | Reprint of an article by E. A. Hauser on recent developments in the field of microscopy and its technical application especially in the rubber industry published in the periodical "Kautschuk," Sep 1931. In German. | 1.50 |
| 1205-1223 PB L 73162 | Article by E. Lihotzky on the astigmatism and curvature of aplanatic optical system with large aperture reprinted from the "Zeitschrift für wissenschaftliche mikroskopie und mikroscopische Technik," Vol. 49. 1932. In German. | 2.00 |
| 1224-1229 PB L 73162 | Article by E. Lihotzky on general consideration concerning the illumination in microscopy. n.d. In German. | 1.50 |
| 1230-1241 PB L 73162 | Objective f=8. 9 mm. 36. 9x. Calculations and drawing. 1894. In German. | 1.50 |
| 1242-1263 PB L 73162 | System IV, f=10 mm, A=0. 50. Calculations and drawing. 1891. In German. | 2.50 |
| 1264-1274 PB L 73162 | Pantachromat f=6. 6 mm, A=0.60. Calculations and drawing. 1893. In German. | 1.50 |
| 1275-1285 PB L 73162 | Focusing loupe with Ramsden's ocular. Calculations and drawing. 1927. In German. | 1.50 |
| 1286-1302 PB L 73162 | Objective 5, drawings and calculations. n.d. In German. | 2.00 |
| 1303-1348 PB L 73162 | Apochromat 3a, f=14. 0 mm. Calculations and drawings. 1917. In German. | 5.00 |
| 1349-1410 PB L 73162 | Simple achromatic Dutch telescope 2. 6x. Drawings and calculations. 1905. In German. | 6.50 |
| 1411-1414 PB L 73162 | Zeiss objective for glycerine immersion, f=2. 5 mm. A=0. 85. Calculations and drawing. 1914. In German. | 1.50 |
| 1415-1426 PB L 73162 | Periplanatic objective Z 210. Drawings and calculations. 1899. In German. | 1.50 |
| 1427-1442 PB L 73162 | Periplanatic objective 1. f=210 mm. Calculations and drawings. 1898. In German. | 2.00 |
| 1443-1510 PB L 73162 | Periplanatic objective 1/7, according to German Patent 110449. f=1.9.0 mm. Drawing and calculations. 1902. In German. | 7.00 |
| 1511-1520 PB L 73162 | Steinheil "Antiplanet" f=305.0 mm. objective. Calculations. 1908. In German. | 1.50 |
| 1521-1540 PB L 73162 | Objective 1/12 with two fluorite lenses, f=1. 85 m. Drawing and calculations. 1908. In German. | 2.00 |

1541-1553 PB L 73162 — Anochromat f = 3 mm. A=0.93. Drawing and calculations. 1908. In German. 1.50

1554-1577 PB L 73162 — Ocular II with objective 10 for water immersion. Drawings and calculations. 1908 and 1917. In German. 2.50

1578-1593 PB L 73162 — Telescope objective f = 237. 3 mm. Calculations. 1903. In German. 2.00

1594-1609 PB L 73162 — Straight-sight prism. Calculations and notes for a patent application. 1904. In German. 2.00

1610-1626 PB L 73162 — Liquid prisms for large dispersion. Drawings and data. 1903. In German. 2.00

1627-1636 PB L 73162 — Binocular loupe 5x. f = 70 mm. Drawings and calculations. 1914. In German. 1.50

1637-1647 PB L 73162 — Reflection on a prism roof edge. Notes and calculations. 1916. In German. 1.50

1648-1677 PB L 73162 — Seven-lens objective according to Kellner, f=14.7 mm. Drawings and calculations. 1905. In German. 3.00

1678-1700 PB L 73162 — Loupe according to Brücke, 3½x. Drawing and calculations. 1906. In German. 2.50

1701-1714 PB L 73162 — Loupe according to Brücke, 7x. Drawings and calculations. 1911. In German. 1.50

1715-1727 PB L 73162 — Aplanatic objective. Data and drawings. n.d. In German. 1.50

1728-1760 PB L 73162 — A very weak objective for a reading microscope. f = 95. 0 mm. Drawings and calculations. 1907. In German. 3.50

1761-1766 PB L 73162 — Achromatic loupe according to Brücke, 12x. Drawing and Calculations. 1906. In German. 1.50

1767-1775 PB L 73162 — Telescope objective f=150 mm. Calculations. 1905. In German. 1.50

1776-1781 PB L 73162 — Objective 5 according to Kellner - Belthle f=8 mm. Drawings and data. 1905. In German. 1.50

1782-1805 PB L 73162 — Telescope. Calculations for a reversing system. 1905. In German. 2.50

1806-1810 PB L 73162 — Pancratic objective. Calculations. 1905. In German. 1.50

1811-1830 PB L 73162 — Objective 6o. f=3.82. Calculations. n.d. In German. 2.00

1831-1859 1871-1893 PB L 73162 — Fluorite objective 1/12m for cedar oil immersion. f=1.427 mm. Calculations. 1905 and 1913. In German. 5.50

1860-1870 PB L 73162 — Objective 4a. f=12.55 mm. A=0.29. Drawing and calculations. 1931. In German. 1.50

1894-1901 PB L 73162 — Objective 3. Calculations. 1914. In German. 1.50

1902-1908 PB L 73162 — Photographic ocular 4a. Drawing and calculations. 1908. In German. 1.50

1908-1937 PB L 73162 — Anochromat 1/12. f=1. 83 mm. Drawing and calculations. 1905. In German. 3.00

1938-1940 PB L 73162 — Objective 3a. f=1.6235 mm. Drawing and calculations. n.d. In German. 1.50

1941-1966 PB L 73162 — Objective P 15. f=112. 0 mm. Drawings and calculations. 1907. In German. 3.00

1967-2056 PB L 73162 — Objective 1, simple condenser, f=40.58 mm. Drawing and calculations. 1918. In German. 9.00

2057-2111 PB L 73162 — Periplanatic objectives 1/7 and 1/9. f=199.1 mm and f=150 mm. Drawings and calculations. 1902. In German. 5.50

2112-2117 PB L 73162 — Micrometric values of various objectives with Huygenian oculars. Tables. 1911. In German. 1.50

2118-2141 PB L 73162 — Enlargement tables for metallographic and other microscopes. 1915. In German. 2.50

2142-2157 PB L 73162 — Telescope objective f=180 mm. ocular f=18 mm. Drawings and calculations. 1911. In German. 2.00

2158-2190 PB L 73162 — Apochromat 2. f=3 mm A=1.42. Drawings and calculations. 1904. In German. 3.50

2191-2243 PB L 73162 — Apochromat 1/12. fluorite. f=1. 90 mm. A=1. 32. Drawings and calculations. 1900 and 1905. In German. 5.50

2244-2283 PB L 73162 — Goerz double anastigmat. f=210 mm and f=400 mm. Drawings and data. n.d. In German. 4.00

2284-2291 PB L 73162 — Leitz periplanatic objective f=200.0 mm. Calculations. n.d. In German. 1.50

2292-2298 PB L 73162 — Darkfield diaphragm for ultramicroscope. Calculations. 1904. In German. 1.50

2299-2301 PB L 73162 — Dark-field condenser for oil immersion. Drawing and calculations. n.d. In German. 1.50

2302-2308 PB L 73162 — Leitz monograph on darkfield illumination. n.d. In German. 1.50

2309-2325 PB L 73162 — Objective 1/12 with a fluorite lens. Drawing and calculations. 1913. In German. 2.00

2326-2330 PB L 73162 — Draft for an article on the theory of a microscope. n.d. In German. 1.50

2331-2348 PB L 73162 — Oculars for drawing apparatus. Drawings, tables and notes. 1912. In German. 2.00

PB L 73163. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Articles, correspondence, drawings and calculations for optics and individual lenses, etc. (FIAT Microfilm Reel I 43, Frames 2349-3636) 1886-1930. 1288 f. Price: Microfilm-$6.00 - Enlargement print-$129.00.
This FIAT microfilm reel consists of 55 articles on optical topics and calculations and drawings for miscellaneous objectives, oculars, condensers and prisms as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German when not otherwise specified.

| Frames | Title | Price |
|---|---|---|
| 2349-2375 PB L 73163 | Leitz correspondence with German, French and British optical firms. 1900-1903. In German, French and English. | $ 3.00 |

2376-2389 PB L 73163 — Optical formulas. n. d. In German. 1.50

2390-2418 PB L 73163 — Ocular OO. Drawings and calculations. 1897. In German. 3.00

2419-2422 PB L 73163 — Projection objective f = 300 mm. Drawing and calculations. 1905. In German. 1.50

2423-2425 PB L 73163 — Monochromatic condenser for projection loup. Drawings and calculations. n. d. In German. 1.50

2426-2436 PB L 73163 — Glycerine condenser. Drawing and calculations. n. d. In German. 1.50

2437-2462 PB L 73163 — Projection objective f = 300 mm. Drawings and calculations. 1898. In German. 3.00

2463-2479 PB L 73163 — Objectivb 5a, f = 4.8 mm. A=0.51. Drawing and calculations. 1912. In German. 2.00

2480-2498 PB L 73163 — Correspondence and Leitz pamphlet on a "new photographic universal objective. Periplan." 1900. In German. 2.00

2499-2543 PB L 73163 — Periplanatic objective 2, f = 24.0 mm. Calculations and drawing. 1917. In German. 4.50

2544-2554 PB L 73163 — Draft of an article on a Leitz micrometer. 1914. In German. 1.50

2555-2565 PB L 73163 — Draft of an article on a double microscope. 1914. In German. 1.50

2566-2631 PB L 73163 — Simple microscope and miscellaneous other brief calculations, also memoranda with formulas, etc. 1905. In German. 7.00

2632-2641 PB L 73163 — A weak objective with a large aperture, f = 32.7 mm, A=0.18. Drawing and calculations. 1905. In German. 1.50

2642-2659 PB L 73163 — Cylindrical lens for the production of a very thin light beam. Calculations and drawings. 1905. In German. 2.00

2660-2668 PB L 73163 — Zeiss aplanatic condensers, 1:1.4. Drawings and data. 1911. In German. 1.50

2669-2694 PB L 73163 — Apochromat f = 9.2 mm. Drawing and calculations. 1910. In German. 3.00

2695-2727 PB L 73163 — Comparator using micrometric ocular 10x and objectives 3 or 1. Data and an article by Dr. A. Zuttman on a new concrete comparator. 1930. In German. 3.50

2728-2783 PB L 73163 — Photographic triplet f = 220.0 mm. Drawing and calculations. 1895. In German. 6.00

2784-2810 PB L 73163 — Objective W, f = 3.0 mm. Drawing and calculations. 1912. In German. 3.00

2811-2832 PB L 73163 — Apochromat f = 3 mm. from apochromat f = 16 mm. Drawings and calculations. 1914. In German. 2.50

2833-2867 PB L 73163 — Stereoptical oculars by Kulpeper and Cuff. Calculations and drawings with data. n. d. In German. 3.50

2868-2867 PB L 73163 — Article accusing the editorial office of the Berlin "Zentral-Zeitung" of unfairness toward the Leitz firm. 1911. In German. 2.00

2868-2956 PB L 73163 — Objective 6, f = 4 mm, A = 0.65. Drawing and calculations. 1914. In German. 7.00

2957-2966 PB L 73163 — Objective 3, f = 18 mm. Calculations. 1889. In German. 1.50

2967-2972 PB L 73163 — Objective 3g, f = 12.75 mm. Calculations. n. d. In German. 1.50

2973-2981 PB L 73163 — Objective 3r, f = 12.75 mm. Calculations. n. d. In German. 1.50

2982-2990 PB L 73163 — Optometor attached to a microscope. Drawings, tables and notes. 1898. In German. 1.50

2991-3039 PB L 73163 — Large illumination system for projection apparatus. Calculations, drawings, notes and data. 1898. In German. 5.00

3040-3052 PB L 73163 — Objective P 19, f = 19.15 mm. Drawing and calculations. 1907. In German. 1.50

3053-3078 PB L 73163 — Objective for water immersion f = 3 mm. Description, drawing and calculations. 1917. In German. 3.00

3079-3112 PB L 73163 — Apochromat f = 2.0 mm. Drawing and calculations. 1920. In German. 2.50

3113-3115 PB L 73163 — Zeiss objective 1/12 for water immersion. Drawing and calculations. 1914. In German. 1.50

3116-3127 PB L 73163 — Cystoscope optics. Calculations and drawings. 1926. In German. 1.50

3128-3136 PB L 73163 — Lenses with great focal length. Drawings and calculations. n.d. In German. 1.50

3137-3147 PB L 73163 — Optics for a microspectroscope. Calculations and drawings. 1907. In German. 1.50

3148-3165 PB L 73163 — Microsummar objectives f = 25.0 mm and f = 35.0 mm. Calculations. n.d. In German. 2.00

3166-3175 PB L 73163 — Loupe for film examination, 5x. Drawing and calculations. 1930. In German. 1.50

3176-3177 PB L 73163 — Pocket microscope. Photograph, drawing and data. n. d. In German. 1.50

3178-3179 PB L 73163 — Loupe 2x, f = 125 mm. Drawing and calculations. 1932. In German. 1.50

3180-3204 PB L 73163 — Aplanatic loupes according to Steinheil. 4x to 40x. Drawings and calculations. 1939. In German. 2.50

3205-3218 PB L 73163 — Stereoscope prisms. Drawings and calculations. 1928. In German. 1.50

3219-3228 PB L 73163 — Reprint of an article by Dr. C. von Tubeuf on a Leitz apparatus for drawing macroscopic objects published in the "Centrablatt für Bakteriologie, Parasitenkunde und Infektionskrankheiten," Vol. V, 1899. In German. 1.50

3229-3234 PB L 73163 — Ocular for drawing apparatus. Drawings. n. d. In German. 1.50

3235-3284 PB L 73163 — Double anastigmat Periplan. Drawings, photograph, description and calculations, including a draft for patent application and respective correspondence. 1886. In German. 5.00

3285-3356 PB L 73163 — Periplanatic objective f = 150 mm. Calculations and drawings. 1900. In German. 7.50

3357-3387 PB L 73163 — Photographic objective consisting of two members, f = 216.3 mm. Drawing and calculations. 1896. In German. 2.50

3388-3441 PB L73163 — Photographic objective consisting of two members, f = 222 mm. Drawing and calculations. 1895. In German. 5.50

3442-3473 PB L 73163 — Apochromat f = 2 mm. Drawing and calculations. 1906. In German. 3.50

3474-3504 PB L 73163 — Letter transmitting microphotographs made with ultraviolet radiation and calculations for ultraviolet optics. 1906. In German. 3.50

3505-3523 PB L 73165 — Galilean telescope objective. Drawings and calculations. 1907. In German. 2.00

3524-3542 PB L 73165 — Aschoff's optical system, f = 32.17 mm, A = 0.16. Calculations and drawing. n. d. In German. 2.00

3543-3556 PB L 73165 — Collectors for illumination apparatus. Drawings and calculations. 1915. In German. 1.50

3557-3602 PB L 73165 — Article with drawings and calculations on a special arrangement of Huyghenian oculars. 1898. In German. 5.00

3603-3636 PB L 73165 — Objective 4, f = 2 mm, A = 0.30. Drawing and calculations. 1909. In German. 3.50

PB L 73159. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Calculations and drawings for objectives and eyepieces. (FIAT Microfilm Reel I-39, Frames 7509-8451) 1889-1933. 943 F. Price: Microfilm-$6.00 - Enlargement print-$94.50. This FIAT microfilm reel consists of calculations and drawings for microscope objectives and other optical lenses as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

| Frames | Title | Price |
|---|---|---|
| 7509-7529 PB L 73159 | Objective 2, f = 20.5 mm. Drawing and calculations. 1917. In German. | $2.50 |
| 7530-7611 PB L 73159 | Compensation ocular 2, f = 90.0 mm. Drawings and calculations. 1908. In German. | 8.50 |
| 7612-7676 PB L 73159 | Apochromat for oil immersion, f = 3 mm. Calculations. 1927. In German. | 6.50 |
| 7677-7690 PB L 73159 | Objective for reading microscope, 3 x. Calculations. n.d. In German. | 1.50 |
| 7691-7706 PB L 73159 | Achromat 6 L. f = 3. 91 mm. Calculations and drawings. 1921. In German. | 2.00 |
| 7707-7711 PB L 73159 | Objective for workshop microscope, f = 13 mm, A = 0. 20. Drawings and calculations. 1929. In German. | 1.50 |
| 7712-7789 PB L 73159 | Periplanatic ocular 10 X, f = 25. 0 mm. Drawing and calculations. 1914. In German. | 8.00 |
| 7790-7829 PB L 73159 | Objective for cinnamon oil immersion, f = 1. 75, A = 1. 40. Drawing and calculations. 1908. In German. | 4.00 |
| 7830-7958 PB L 73159 | Fluorite objective for naphthalene monobromide immersion, f = 2. 14, A = 1.48. Drawing and calculations. 1933. In German. | 13.00 |
| 7959-8035 PB L 73159 | Sound film objective f = 20 mm, A = 0. 45. Drawings and calculations. 1930. In German. | 8.00 |
| 8036-8066 PB L 73159 | Notes and calculations relating to various old lenses. 1889 - 1891. In German. | 3.50 |
| 8067-8216 PB L 73159 | First design of the naphthalene monobromide immersion system f = 3. 0 mm, A = 0. 87. Drawing and calculations. 1895. In German. | 5.50 |
| 8217-8253 PB L 73159 | Projection condenser f = 77. 0 mm, Drawings and calculations. 1933. In German. | 4.00 |
| 8254-8327 PB L 73159 | Huyghenian oculars 3x and 8x for micro-projection. Drawings and calculations. 1930. In German. | 7.50 |
| 8328-8357 PB L 73159 | Fluorite objective 6a, f = 4. 23 mm. Drawing and calculations. 1923. In German. | 3.00 |
| 8358-8394 PB L 73159 | Fluorite objective for oil immersion, 1/7a, f = 3. 45 mm A = 0. 95. Description, data, drawings and calculations. 1920. In German. | 4.00 |
| 8395-8451 PB L 73159 | Ultropak objective 22x, f = 4 mm. Drawings and calculations. 1932. In German. | 6.00 |

* PB L 81866. ROSE, C. R. and WHITE, D. R. German photosensitive products manufacture. (FIAT Final Rept 351, 354-360) Jul-Aug 1945. 200 p. Price: Mimeo-$5.00
This report is arranged into eight sections, each section being an individual report on manufacturers visited. Section I; Göbel A. G., Darmstadt manufacturer of equipment for the photo industry, e. g. single fly knives, multiple knives and guillotine knives (for film or paper). Section II; Schleussner Film Werke, Neu Eisenberg, manufacturer of photosensitive products. Section III; Otto Peruts, G.m.b.H., Munich, report on plant practices is given. Section IV; Degussa, Frankfurt am Main, manufacturer of photographic silver nitrate. Section V; covering four photographic gelatine plants. Section VI; Kalle & Company, Biebrich, manufacturer of photosensitive products. Section VII; AGFA plant at Wolfen, covering interviews with the technical personnel. Section VIII; AGFA paper plant at Leverkusen. The operating procedure and equipment are described. Formulae for the various emulsion coatings for paper are given in the Appendices, including those for the color print paper.

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## RUBBER AND RUBBER PRODUCTS

* PB L 80383. CORRELL, H. and KERN, W. The synthesis of acrylamides and the copolymerization of acrylamides and butadiene. (English translation). (FIAT Final Rept 978). Jun 1947. 14 p. Price: Mimeo-$0.50
These two papers on production of acrylamides, and an copolymerisation of butadienes with acrylamides, are translations of original reports, made in 1943, on work done in I. G. Farbenindustrie, Höechst.

* PB L 78997. MAJOR, COLEMAN J. Rubber vulcanisation accelerators produced by I. G. Farbenindustrie, A.G., Höchst, Elberfeld, Leverkusen. (FIAT Final Rept 1018). Apr 1947. 91 p. Price: Mimeo-$2.50
Process details have been obtained for the manufacture of 22 rubber vulcanisation accelerators. These are designated by the German trade name "Vulkacit" followed by appropriate designations specific to the individual compounds. The following accelerators have been covered in this report:

| | | | | | |
|---|---|---|---|---|---|
| Vulkacit AZ | | Vulkacit F | | Vulkacit 576 | |
| " | BZ | " | FP | " | 576 Extra |
| " | CA | " | H | " | 774 |
| " | CT | " | I | " | 1000 |
| " | CT-N | " | M | | |
| " | D | " | P | | |
| " | DM | " | P extra N | | |
| " | DOTG | " | Thiuram | | |
| | | " | U | | |

Flow sheets appear in the text. Diagrams of apparatus are attached.

PB L 80757. OHLINGER. The development of the new styrene catalyst. (Translation of a German report.) (Reconstruction Finance Corp. Office of Rubber Reserve Tech Rept RM-302) Sep 1945. 13 p. Price: Mimeo-50¢
The advantages obtained with the new catalyst used in the manufacture of styrene may be summarized as follows: (1) the yield of 80% (with oxides of Merck) respectively, 70-75% (with oxides of Lu) has been raised to 88-90% over very long periods of operation, (2) the performance of the oven with a normal run has been raised from 100 to 115 moto, (3) the regeneration with steam is no longer necessary, (4) the so-called residue in crude styrene has been lowered to 1.5-2%, (5) the volume of waste gas has been reduced by one-half; therefore, less cracking in ethylene and methane with corresponding lower formation of benzene and toluene, (6) the reaction of water gas put down to a minimum furnishes only 43% of the formerly produced $CO_2$ whereby less ethylbenzene is burnt, (7) the oven furnishes, even with very long runs, yields in the neighborhood of 90% and in this manner save the difficult and time consuming changes of catalysts, which is of great significance at a time when there exists a shortage of mechanics, (8) the saving on raw materials, such as benzene and ethylene, amounts to about 11%. The perfected catalysts Lu 82 and Lu 1440 have been filed in a comprehensive patent application. A plant diagram is attached.

* PB L 81617. ROBINSON, R. S. and WEEKS, C. A. Polyurethanes and synthetic resins. Interrogation of Professor Otto Bayer, chief of the organic chemical research department of I. G., Leverkusen. (BIOS Final Rept 1498, Item 22; Interrogation Rept 543) Jul 1946. 14 p.
Price: Microfilm-$1.25 - Photostat-$2.00
The report is divided into two sections and covers briefly the following: Section I. Polyurethanes, (A) Isocyanates, desmodurs, (B) Hydroxylic reactant. Those chiefly used were (1) butanediol, (2) desmophens, (3) other polyhydroxy compounds such as phenol-formaldehyde resins, polyvinyl alcohol, cellulose derivatives, partial esters of glycerol, and oil-modified alkyd resins. Properties and uses, and surface-coating. Section II. Other synthetic resins for surface coatings, (A) Alkyd resins - (1) polybasic acids, (2) polyhydric acids, and (3) fatty acids and oils, (B) Miscellaneous resins, and emulsifying agents. The appendix covers such points as scope of reaction, laboratory preparation, linear polymers, lacquers, laminating, adhesives, alkyd resins and expanded rubber.

PB L 80753. TECHNICAL INDUSTRIAL INTELLIGENCE COMMITTEE. Styrene production in Germany. (Rept RM-284). Aug 1945. 22 p. Price: Microfilm-$1.00 - Photostat-$2.00
This report summarizes the results obtained at the several German synthetic rubber plants based on field team reports so far available. It is felt that sufficiently adequate information is now at hand to give a fairly accurate picture of the process used in Germany during the past few years. In view of the fact that these processes are similar to some of those used in the United States and Canada the information should be of immediate interest to the styrene producers in this country. Tables appear in the report. Flow sheets are appended.

## TEXTILES AND TEXTILE PRODUCTS

* PB L 81627. FAIRHURST, H. and others. The German rayon dyeing, printing and finishing industry. (BIOS Final Rept 1359, Item 22) Sep 1946. 169 p. Price: Microfilm-$5.00 - Photostat-$17.00
A combined textile mission (see BIOS Final Rept 574; PB 34729, v. 3, p. 57) visited Germany in February 1946 to carry out reconnaissance work with a view to finding out the condition of the German textile industry, materially and technically, and to indicate which concerns were worth further investigation. The report is divided into the following sections: (a) List of firms visited, (b) recommendations for further and more prolonged study of 6 of these firms, (c) a long summary (11 pages), (d) individual reports on firms visited, and (e) appendix of items evacuated.

PB L 19921. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Patent applications from the Photo and Artificial Silk Patent Division, Wolfen, 1942-1943. (FIAT Microfilm Reel Patents 145) Mar 1946. 988 f. Price: Microfilm-$6.00 - Enlargement print-$99.00
A number of items included in this film pertain to the manufacture and processing of textiles, artificial fibers, rayon, etc. Abstracts of the film and the individual papers may be found in the Section: "Patents: Chemicals and Allied Products" of this issue of the Bibliography.

* PB L 85608. PEAKE, J. G. Evaluation of synthetic detergents and lubricants in the German wool industry. (BIOS Final Rept 1507, Item 22) Nov 1946. 9 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Six factories were visited in order to assess the efficiency of synthetic detergents and mineral oil lubricants used in the German wool industry. An individual report covering information obtained at each firm is given.

PB L 177-S-3. WAGNER. $NH_3$ recovery from the blue water of the rayon and cuprene plants in Dormagen. (Appendix A-8, Supplement to PB 177) Translation in English. (CIOS File XIX-5, Item 22, Supp.) May 1944. 10 p.
Price: Mimeo-50¢
This supplement describing $NH_3$ recovery is divided into four parts: (1) theoretical principles of the process, (2) description of the process and apparatus, (3) power balance for $NH_3$ recovery, and (4) costs. The abstract concerning the plants and products appears in vol. 1, p. 26, this Bibliography.

## TRANSPORTATION EQUIPMENT

### AERONAUTICS

#### Engines and Propellers

PB L 30894. GREEN, R. A. Laboratory test of seal flex tube fittings. (AAF Materiel Command Memo Rept EXP-M-51/AD 1058, Addendum 1) May 1942. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30895. GREEN, R. A. Test of Aero Coupling Corporation hose assemblies. (AAF Materiel Command Memo Rept EXP-M-51/AD 1056, Addendum 1) Jun 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 86013. LIST, H. General view of the reports prepared by the Institute for Internal Combustion Engines, Vilsbiburg. Dec 1945. 34 p. Price: Microfilm-$1.75 - Photostat-$4.00
This is a survey covering 42 reports on research work carried out during the last years of the war by the Institute for Internal Combustion Engines at Vilsbiburg, near Munich, Bavaria, Dresden and Graz, Germany. The work covers the gas exchange, mixture preparation and working processes in Diesel engines, and in four- and two-cycle engines. The working method developed by the Institute was, in the last years of the war, also applied to recoil jet and exhaust driven turbines.

PB L 85138. LIST, H. Supercharge by means of gas oscillations in the suction pipe, especial consideration being taken of the condition in radial engines. (Institute for Internal Combustion Engines Rept 40) Jan 1946. 24 p. Price: Mimeo-75¢
This is the 40th report on research carried out by the Institute for Internal Combustion Engines. This report deals with the inertia of the gas column in suction pipes of a four-cycle engine through which a supercharging effect can be obtained when the suction pipe is properly designed. Valve timing, length and cross-section of suction pipe, cylinder measurements and engine speed must all be related in a determined manner. The determination by means of calculation of these relations is shown by means of the method given in report 20, see PB 85134. The results of experiments are communicated by means of which the accuracy of the calculation is proved. Eleven diagrams are included. For a general survey of 42 research reports by this Institute see PB 85129.

PB L 30866. O'NEIL, K. E. Failures of engine mount vibration absorber cushions, No. 19B341-5 - C-47 series airplanes. (AAF Materiel Command Memo Rept U-EXP-M-51-5324) Dec 1941. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 85130. ULLMANN, K. and ZENKER, O. Investigations to increase the power output of aero-engines: Loss repartition and possibilities to increase the power output of the British aero-engine type Napier-Sabre. (Institute for Internal Combustion Engines Rept 3) Jan 1946. Price: Mimeo-$1.50
This is the third report on research carried out by the Institute for Internal Combustion Engines during the last years of the war. The work in this report covers: Increase in performance of the aero-engine "Napier Sabre II A"; Comparison of the slide-valve with other gas exchange systems (valves, rotary valves); and conclusions. Twenty diagrams are included. For a general survey of 42 research reports by this Institute see PB 85129.

PB L 85129. ULLMANN, K. and WENNER, H. Investigations to increase the power output of aero-engines: Loss repartition and possibilities to increase the power output of the American aero-engine type Packard-Merlin V 1650 at 12800 ft. flying height. (Institute for Internal Combustion Engines Rept 2) Dec 1945. 57 p. Price: Mimeo-$1.50
This is the second report on research work carried out by the Institute for Internal Combustion Engines, during the last years of the war. The work covered is: Efficiency and power output of the ideal engine; Consideration of the volumetric efficiency; Thermodynamic losses of the actual engine; Mechanical losses of the actual engine; Losses in flow of the actual engine; Supercharger loss; Ways to increase the power output of the "Packard-Merlin" at 32,800 ft. flying height. For a general survey of 42 research reports by this Institute see PB 85129. Twenty-eight diagrams are included.

PB L 86007. ULLMANN, K. and WENNER, H. Measures to increase the power and loss repartition of the type DB 603. (Institute for Internal Combustion Engines Rept 4) Feb 1946. 70 p. Price: Microfilm-$2.50 - Photostat-$7.00
This is the fourth report on research carried out by the Institute for Internal Combustion Engines. This report is concerned with the total losses, loss distribution and measures to increase the power output of the aero-engine type DB 603 at 32,800 feet flying height. It is shown how the altitude performance of the engine is ascertained by combination of experiments and calculations. Thirty-six diagrams are included. For a general survey of 42 research reports by this Institute see PB 85129.

#### Rockets and Jet Propulsion

PB L 86008. HERSCHMANN, O. Thermodynamics and loss repartition of JP power plants and gas turbines. Part I. (Institute for Internal Combustion Engines Rept 38, 39) Jun 1946. 182 p. Price: Microfilm-$5.50 - Photostat-$19.00
This is Part I of the 38th and 39th report on research carried out by the Institute for Internal Combustion Engines, Vilsbiburg, Bavaria, during the last years of the war. This report 38/39 contains in three parts the essential results of the work done by the Institute on JP engines. Part I gives the thermodynamics of the working process as a foundation for the systematic development of the JP engine and the gas turbine. Twenty-six diagrams are included. For a general survey of 42 research reports by this Institute see PB 85129. For part II of this report see PB 86009.

PB L 86009. LIST, H. and STIER, R. Thermodynamics and loss repartition of jet propulsion plants. Part II. The combustion chamber. (Institute for Internal Combustion Engines Rept 38, 39) May 1946. 93 p. Price: Mimeo-$2.25
This is Part II of the 38/39th report on research carried out by the Institute for Internal Combustion Engines during the last years of the war. This report 38/39 contains in three parts the essential results of the work done by the Institute on J. P. engines. Part II deals with the foundations for design and testing of combustors. Special at-

tempts have been made to extend as far as possible the range of calculation for the different problems and thus to hedge in the extent of purely experimental developments. Nineteen sketches and sixteen diagrams are included. For a general survey of 42 research reports by this Institute see PB 85129. For part I of this report see PB 85008.

PB L 85137. ULLMANN, K. and WENNER, H. Investigations to determine the efficiency of exhaust recoil jets. (Institute for Internal Combustion Engines Rept 32) Mar 1946. 41 p. Price: Mimeo-$1.25
This is the 32d report on research carried out by the Institute for Internal Combustion Engines during the last years of the war. This report deals with method and results of the determination of the actual and theoretical thrust delivered by the utilization of exhaust gas energy in exhaust recoil jets. Twenty-one diagrams are included. For a general survey of 42 research reports by this Institute see PB 85129.

## MARINE TRANSPORTATION

PB L 85140. U. S. NAVAL TECHNICAL MISSION TO JAPAN. Characteristics of Japanese naval vessels. Article 12. Boilers and machinery. (Rept S-01-12). Apr 1946. 105 p. Price: Mimeo-$2.75
No new or positive information of the details of design or construction of boilers and machinery was developed by this investigation. The general status of Japanese boiler and machine design was on a rather low level. What was good appeared to have been copied from United States or British design. German design influence strangely seemed to be lacking. This report is based almost entirely on detailed studies of shop drawings and acceptance trial machinery data and inspections of equipment at Navy Yards and in ships. The Japanese Navy had standardized boiler design to a single shape and size. A very detailed description is given on this design including graphs, tables and drawings.

PB L 85141. U. S. NAVAL TECHNICAL MISSION TO JAPAN. Woods, textiles, rubber, and plastics used in Japanese naval vessels. (Rept S-95 (N)). Jan 1946. 11 p. Price: Mimeo-$0.50
Wood of many varieties was used extensively in Japanese naval vessels, and the workmanship in wood was very careful. Even on modern steel ships, wood was used for equipment such as furniture, shelving, and cabinets. Textile, rubber, and plastics in moderate amounts found essentially the same uses as in U. S. naval vessels. The various woods and textiles, rubber and plastics as used aboard Japanese ship and naval vessels are listed in this report.

## MISCELLANEOUS

PB L 80621. BLACK, SIMON and others. The oxidation of acetate by yeast in the presence of fluoroacetate. n. d. 27 p. Price: Mimeo-$1.25
The time of addition of fluoroacetate to yeast with respect to acetate affected the initial rate of oxygen consumption. After an extended period the rates became constant and identical regardless of the relative order of addition. When fluoroacetate was added to yeast 25-30 minutes prior to acetate a significant oxygen uptake did not occur until an extended period had elapsed. Oxidation during this period was catalytically stimulated by ethanol, acetaldehyde, succinate, and succinic semialdehyde. Ethanol and succinate each potentiated the effect of the other. Acetate formed as an intermediate in ethanol oxidation was oxidized at a good rate in fluoroacetate poisoned yeast under conditions very unfavorable to the oxidation of added acetate. Some effects of varying pH values on the effectiveness of fluoroacetate as an inhibitor of acetate oxidation in yeast cells are described.

PB L 70258. I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN-GRIESHEIM, GERMANY. Reports and reprints on welding and production of hydrogen. (FIAT Microfilm Reel AA-40, Frames 1-996) 1910-1944. 1107 f. Price: Microfilm-$6.00 - Enlargement print-$111.00
This reel was prepared by FIAT investigators in Germany. 146 individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German. (Two reports are in Russian.)

| Frames | Title | Price |
|---|---|---|
| 1-11 PB L 70258 | Repairing of used anchor chains by means of deposition welding. Jan 28, 1943. In German. | $1.50 |
| 12-22 PB L 70258 | Testing worn chain links of a 22 mm conveyor chain repaired by deposition welding. Jun 30, 1943. In German. | 1.50 |
| 23-25 PB L 70258 | Welding of anchor chains. Jun 25, 1943. In German. | 1.50 |
| 26-46 PB L 70258 | Fatigue tests with chain links. May 3, 1943. In German. | 2.50 |
| 47-71 PB L 70258 | Autogenous welding of chains. Sep 14, 1943. In German. | 2.50 |
| 72-73 PB L 70258 | Autogenous welding of chains. By Dr. Ing. W. Fuengel, Sep 9, 1942. In German. | 1.50 |
| 74-103 PB L 70258 | Repairing worn out conveyor chains by deposition welding. Sep 9, 1942. In German. | 3.00 |
| 104-105 PB L 70258 | Chain welding. By Dr. Duempelmann. Sep 3, 1942. In German. | 1.50 |
| 106-116 PB L 70258 | Chain manufactured by gas welding. By Dr. Fungel, Jun 5, 1942. In German. | 1.50 |
| 117-128 PB L 70258 | Repair of worn out conveyor chains by deposit welding. May 30, 1942. In German. | 1.50 |
| 129-142 PB L 70258 | Metallurgical processes during welding. By Dumpelmann. Nov 2, 1943. In German. | 1.50 |
| 143-151 PB L 70258 | New developments in welding. By Dr. Dumpelmann, Jan 6, 1942. In German. | 1.50 |
| 152-177 PB L 70258 | Present state of welding technique. By Dr. Dumpelmann, Apr 4, 1939. In German. | 3.00 |
| 178-185 PB L 70258 | Influence of the shape of welding seams on the alternating stress of weldings. By Werner and others, Mar 27, 1944. In German. | 1.50 |
| 186 PB L 70258 | The structure of welded joints. By Dr. Dumpelmann, Feb 23, 1944. In German. | 1.50 |
| 187-189 PB L 70258 | Welding tests of steel sheets of high strength. May 24, 1941. In German. | 1.50 |
| 190-192 PB L 70258 | Fillet welding of high strength steel plates. Apr 25, 1941. In German. | 1.50 |
| 193-194 PB L 70258 | Standards for boiler plates. Apr 1944. In German. | 1.50 |

Miscellaneous (contd)

196-196 PB L 70258 — Contribution to welding processes of St 52. Jul 1939. In German. 1.50

197-200 PB L 70258 — Testing of a welded cylinder. Jan 18, 1940. In German. 1.50

201-244 PB L 70258 — Testing of welded iron barrels. Apr-Sep 1939. In German. 4.50

245-248 PB L 70258 — Welding of pipe lines according to Schwantke and Lindner. Mar 5, 1942. In German. 1.50

249 PB L 70258 — Measures for saving high-speed steel. Jun 1944. In German. 2.00

250-272 PB L 70258 — Welded milling cutters. May 31, 1943. In German. 1.50

273-279 PB L 70258 — Tests for applying the welding technique on tools used for the construction of tanks. Aug 25, 1942. In German. 1.50

280-300 PB L 70258 — Status of the drop-shape high-speed steel hard facing method. Oct 11, 1943. In German. 2.50

301-318 PB L 70258 — Equipment and devices for Gridur welding plants. Oct 15, 1943. In German. 1.50

319-343 PB L 70258 — Cold welding of alloyed and unalloyed cast iron of various quality. Feb 1, 1941. In German. 2.50

344-347 PB L 70258 — Weldable malleable cast iron. n. d. In German. 1.50

348-360 PB L 70258 — New "DS" electrode coating. n. d. In German. (Translation from Russian). 1.50

361-378 PB L 70258 — Stabilization of the arc process and melting-off velocity of electrodes. By Rusanowitsch, Dec 27, 1938. In German. (Translation from Russian). 2.00

379-393 PB L 70258 — Theoretical principles for the composition of coatings of electrodes for the welding of carbon steels. By A. A. Jerochin, Jun 27, 1938. In German. (Translation from Russian). 1.50

394-433 PB L 70258 — Metallurgical processes in arc welding. 1937. In German. (Translation from Russian). 4.00

434-435 PB L 70258 — Stabilization of the welding arc. By Buschtet and others. n. d. In Russian. 1.50

436-448 PB L 70258 — Stability of the welding arc and the velocity of the melting of electrodes. By Russanjewitsch. In Russian. 1.50

449-452 PB L 70258 — Mudless acetylene plant at the Zeppelin Wasserstoff-und Sauerstoff-Werke, Berlin-Staaken. Apr 8, 1944. In German. 1.50

453-458 PB L 70258 — Polymerization tests in an acetylene bell. Mar 27, 1944. In German. 1.50

459-461 PB L 70258 — Investigations of the dry generator of the "Zawas, Staaken." Jan 26, 1944. In German. 1.50

462-463 PB L 70258 — Mudless acetylene generator. Jan 8, 1944. In German. 1.50

464 PB L 70258 — Acetylene generator. Hydronalium welding. Apr 8, 1943. In German. 1.50

465-466 PB L 70258 — Mudless acetylene generator. Mar 5, 1943. In German. 1.50

467-471 PB L 70258 — Mudless acetylene generator of the ET 4 type. Feb 23, 1943. In German. 1.50

472-473 PB L 70258 — Acetylene gas production. Jan 26, 1943. In German. 1.50

474-475 PB L 70258 — Lime for building purposes. Oct 7, 1942. In German. 1.50

476-481 PB L 70258 — Summary of welding and soldering processes. By Dr. Holler, Nov 25, 1941. In German. 1.50

482-484 PB L 70258 — Reports on welding tests. By Dr. Holler, Jun 4, 1941. In German. 1.50

485-513 PB L 70258 — Present state of welding technique. By Dr. Dümpelmann, Apr 5, 1939. In German. 3.00

514-522 PB L 70258 — Precautionary measures for autogenous welding and cutting. n. d. In German. 1.50

523-537 PB L 70258 — Welding instructions, training for welders, supervision of welding operations in plants. By Geiger, Apr 4, 1939. In German. 1.50

538-543 PB L 70258 — Welding of plated sheets. n. d. In German. 1.50

544-546 PB L 70258 — Delivery and testing directions for Isett. Oct 25, 1938. In German. 1.50

547-550 PB L 70258 — Newer investigations of Igelit PCU. By Buchmann, Oct 25, 1938. In German. 1.50

551-576 PB L 70258 — Present state of welding. By Dümpelmann, Oct 25, 1938. In German. 3.00

577-585 PB L 70258 — Load conditions in the Jones test. By Dr. Werner, Oct 25, 1938. In German. 1.50

586-614 PB L 70258 — Protection against corrosion. By Ing. Frank, Oct 25, 1938. In German. 3.00

615-623 PB L 70258 — Welding of alloyed steels in the high pressure plant at Hoechst. By Wessing, Oct 25, 1938. In German. 1.50

624-631 PB L 70258 — Summary of welding developments for 1941-1942. By Duempelmann, Sep 15, 1942. In German. 1.50

632-633 PB L 70258 — Hard metal welding. Jul 17, 1942. In German. 1.50

634 PB L 70258 — Testing schedule for Gridur SMV und Gridur SW. By Duempelmann, Jul 17, 1942. In German. 1.50

635-638 PB L 70258 — Summary of laboratory research for the first half year of 1942. By Duempelmann, Jul 9, 1942. In German. 1.50

639-641 PB L 70258 — Welding rod. By Duempelmann, Jul 2, 1942. In German. 1.50

642-645 PB L 70258 — Welding electrodes and coatings for electrodes. By Duempelmann, Mar 23, 1942. In German. 1.50

646-647 PB L 70258 — Various welding electrodes. By Duempelmann, Mar 19, 1942. In German. 1.50

648-653 PB L 70258 — Tests with welding and soldering processes. By Dr. Holler, Nov 25, 1941. In German. 1.50

654-657 PB L 70258 — Development and production problems of various hard metal electrodes. Aug 13, 1941. In German. 1.50

658-664 PB L 70258 — Summary of the laboratory research work from Jan 1, to Jun 30, 1940. By Duempelmann, Aug 2, 1941. In German. 1.50

665-667 PB L 70258 — Development of welding electrodes. By Dr. Holler, Jun 4, 1941. In German. 1.50

668-671 PB L 70258 — "H" welding electrodes. May 23, 1941. In German. 1.50

672-678 PB L 70258 — Autogenous welding. By H. Schnedler, Sep 1942. In German. 1.50

679-683 PB L 70258 — The "Klin-Bafergut" welding process. By Otto Maberger, Sep 1942. In German. 1.50

684-688 PB L 70258 — Curves showing the capacity of acetylene flames and natural gas. May 4, 1944. In German. 1.50

689 PB L 70258 — Quantitative analysis of acetylene in liquid oxygen with Jlosway's reagent. Feb 1, 1944. In German. 1.50

690 PB L 70258 — Dry gasification of carbide by means of the mudless generator. Jan 26, 1944. In German. 1.50

691 PB L 70258 — "Perchloron" tablets. Oxygen generation. Dec 15, 1942. In German. 1.50

692 PB L 70258 — "Perchloron" tablets. Oxygen generation. Aug 11, 1942. 1.50

693 PB L 70258 — Oxygen generation from "perchloron." Jul 20, 1942. In German. 1.50

694-697 PB L 70258 — Oxygen generation. Dec 29, 1941. In German. 1.50

698 PB L 70258 — "Perchloron tablets." Nov 21, 1941. In German. 1.50

699-701 PB L 70258 — Process for production of liquefied stable gases, especially of liquid acetylene, liquefying immediately from the solid state. Apr 22, 1939. In German. 1.50

702-707 PB L 70258 — Influence of hydrogen phosphide and hydrogen sulfide on the weldability of steels. By Dr. Maier, Oct 1940. In German. 1.50

708-710 PB L 70258 — Method and production of gases from solid and liquid substances. Mar 1, 1940. In German. 1.50

711-715 PB L 70258 — Spontaneous ignition of hydrogen. By M. Patry, Aug 19, 1938. In German. 1.50

716-724 PB L 70258 — Tarnishing oxidation of metals during annealing in hydrogen. Jul 15, 1940. In German. 1.50

725 PB L 70258 — Production of hydrogen from calcium hydride. Mar 20, 1940. In German. 1.50

726 PB L 70258 — Solubility in liquid paraffin. May 21, 1937. In German. 1.50

727 PB L 70258 — Storing of hydrogen. Feb 8, 1936. In German. 1.50

728 PB L 70258 — Production of hydrogen. Oct 16, 1934. In German. 1.50

729-731 PB L 70258 — The influence of contaminations in hydrogen with regard to autogenous cutting. Aug 29, 1934. In German. 1.50

732 PB L 70258 — Hydrogen. May 21, 1931. In German. 1.50

732 PB L 70258 — The calculation of the loss of toluene or benzene when emptying a 40 l bottle, May 21, 1931. In German. 1.50

733-743 PB L 70258 — Iron carbonylin hydrogen. May 19, 1931. In German. 1.50

744-746 PB L 70258 — The production of cheap hydrogen by dissociation of ammonia. Dec 1930. In German. 1.50

747-748 PB L 70258 — Iron carbonyl. In German. 1.50

749-752 PB L 70258 — Eliminating oxygen from electrolytic hydrogen. Jun 7, 1940. In German. 1.50

753 PB L 70258 — Iron carbonylin hydrogen. Jun 5, 1930. In German. 1.50

754-755 PB L 70258 — Increased output of electrical hydrogen-cooled machines. Sep 1, 1929. In German. 1.50

756-758 PB L 70258 — Water gas. May 15, 1928. In German. 1.50

759-761 PB L 70258 — Iron carbonylin hydrogen. May 2, 1928. In German. 1.50

762-766 PB L 70258 — Complaints concerning hydrogen. Jan 26, 1928. In German. 1.50

767-790 PB L 70258 — Report of the taking over inspection of the Marine Gas Werke in Ahlhorn i/O. By Scheme, Aug 17, 1917. In German. 2.50

791 PB L 70258 — Production of hydrogen by "Chemische Fabrik Griesheim-Elektron, Frankfurt/Main." Jun 1914. In German. 1.50

792-795 PB L 70258 — Gas piping. n. d. In German. 1.50

796 PB L 70258 — Production of hydrogen by "Carl Franckes Wasserstoffgas-Gesellschaft m.b.H, Bremen." By Carl Franckes, 1915. In German. 1.50

797 PB L 70258 — Electrolyzer type N 20/40 of the Bamag system. In German. 1.50

798 PB L 70258 — Installation for the generation of hydrogen by means of the Pintsch method. Dec 1913. In German. 1.50

799 PB L 70258 — Application of water gas for the reduction of operational expenses, and improvement of manufacturing. 1914. In German. 3.50

800-803 PB L 70258 — The evaporation graphs of two generators. In German. 1.50

804-815 PB L 70258 — Report on desulfurizing tests. Jul 4, 1916. In German. 1.50

816-818 PB L 70258 — Red lead ore in combination with Stordoe-ore, for the generation of hydrogen. By Hock, Feb 10, 1917. In German. 1.50

819-823 PB L 70258 — Red lead. By Grossmann, Oct 27, 1916. In German. 1.50

824-846 PB L 70258 — The generation of hydrogen. 1921-1926. In German. 2.50

847-848 PB L 70258 — Operation regulations for the double tunnel water gas generator. n. d. In German. 2.00

849-851 PB L 70258 — Compounds for the generation of water gas. n. d. In German. 1.50

852-858 PB L 70258 — Test with the water gas generator. n. d. In German. 1.50

859-867 PB L 70258 — Hydrogen generation by means of pre-roasted pyrites mixed with pieces of fire clay. Aug 1, 1916. In German. 1.50

868-870 PB L 70258 — Analysis of fresh and used brown iron ore. By Nickel, Aug 9, 1918. In German. 1.50

871 PB L 70258 — Investigation of contaminated samples from separators. Dec 4, 1918. In German. 1.50

872-873 PB L 70258 — Hydrogen analysis. Apr 6, 1946. In German. 1.50

874-880 PB L 70258 — Gas analytical investigations in the hydrogen plant at Griesheim. By Maier, Mar 18, 1926. In German. 1.50

881-886 PB L 70258 — Gas-density meter. By Gmelin, Feb 20, 1920. In German. 1.50

887-895 PB L 70258 — Automatic analysis of hydrogen. By Gmelin, May 21, 1917. In German. 1.50

896 PB L 70258 — Gas interferometers. By Dr. Ottomar Wolff, 1917. In German. 1.50

897 PB L 70258 — Determination of the concentration of colloidal suspensions by means of a new fluid interferometer. By Dr. R. Marc, 1912. In German. 1.50

898 PB L 70258 — Gas analysis. Use of the interferometer. By Dr. Ing. R. von Klemperer, 1911. In German. 1.50

899 PB L 70258 — Portable interferometer for liquids and gases. By F. Loewe, 1910. In German. 1.50

900-900E PB L 70258 — Use of the Zeiss interferometer for the technical analysis of flue and stack gases. By O. Mohr, 1912. In German. 1.50

901 PB L 70258 — New interferometer for gases and liquids. By F. Loewe, 1910. In German. 1.50

902-904 PB L 70258 — Zeiss interferometer for gases. By R. Lucion, 1913. In German. 1.50

905 PB L 70258 — Refraction exponent of gas mixtures. By Valentiner and Zimmer, Nov. 1913. In German. 1.50

906 PB L 70258 — The portable interferometer for the determination of the methane content in air samples of mines. By Dr. Küppers, 1913. In German. 1.50

907-913 PB L 70258 — Gas analysis apparatus. 1919. In German. 1.50

914-922 PB L 70258 — Analytical apparatus for hydrogen W/L. By Dr. Loewenstein, 1919. In German. 1.50

923-926 PB L 70258 — Gas analysis. By Dr. Loewenstein, n. d. In German. 1.50

927 PB L 70258 — Ore stones for the hydrogen generator. By Maier, Oct 13, 1931. In German. 1.50

928 PB L 70258 — Analysis of a sample of brown iron ore. Oct 22, 1929. In German. 1.50

929 PB L 70258 — Ore sample from the "Magdalena" mine. Feb 9, 1929. In German. 1.50

930 PB L 70258 — Generation of hydrogen by means of red lead ore. Feb 15, 1926. In German. 1.50

931-945 PB L 70258 — Ore stones for the hydrogen generator. By Maier, May 20, 1927. In German. 1.50

946-951 PB L 70258 — A new fluxing agent. Mar 1, 1941. In German. 1.50

952-978 PB L 70258 — Welding powder for zinc alloys. Feb 3, 1941. In German. 3.00

979-981 PB L 70258 — Stage of autogenous welding of zinc and zinc alloys. Oct 20, 1939. In German. 1.50

982 PB L 70258 — "Alubronze 5" for electrodes. Jun 28, 1943. In German. 1.50

983-985 PB L 70258 — Deposit welding with hard copper. Jun 24, 1943. In German. 1.50

986-987 PB L 70258 — Copper electrodes. May 10, 1943. In German. 1.50

988-992 PB L 70258 — Brass welding wires, type "Bronzyt" and copper welding wires type "Erkade," of the Kabel und Drahtfabrik in Bendzin." Nov 29, 1941. In German. 1.50

993-996 PB L 70258 — "Griesheim 16" nickel electrodes. Aug 7, 1940. In German. 1.50

PB L 73530. KARLSRUHE, GERMANY. TECHNISCHE HOCHSCHULE. Dissertations in natural science. (FIAT Microfilm Reel M-85, Frames 4401-5126) 1938-1945. 725 f. Price: Microfilm-$6.00 - Enlargement print-$72.50. This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. In German.

| Frames | Title | Price |
|---|---|---|
| 4401-4469 PB L 73530 | Abstracted with reel M 84, PB 74699 frames 4353-4400. | $7.00 |
| 4470-4535 PB L 73530 | Change of shape in beams in the elastic-plastic state of the material. By Woldemar Swida. 1944. In German. | 7.00 |
| 4536-4576 PB L 73530 | Experiment for the direct oxidative cleavage of the double bond. By Kurt Zopf. 1944. In German. | 4.00 |

Miscellaneous (contd)

4577-4617
PB L 73530 — Determination of the relationship of crystalline and amorphous substances in rayon fibers by means of X-rays. By Ludwig Flaschner. Aug 22, 1945. In German. 4.50

4618-4670
PB L 73530 — Oxidation of ethylene into ethylene oxide. By Maria Th. Meter. 1945. In German. 5.50

4671-4752
PB L 73530 — The autoxidation of saturated hydrocarbons and cyclic ethers and the qualities of the hydrogen peroxides developed therewith. By Rudolf Tannenberger. 1945. In German. 8.50

4753-4904
PB L 73530 — The buckling of arched girders with unsymmetrical load. By Ernst Dentsch. Jul 1938. In German. 8.50

4905-5042
PB L 73530 — "Ground sills" in navigable waters. By Baurat G. Schneider. n.d. In German. 14.00

5043-5075
PB L 73530 — Determination of the pressure in "Ueberfallhauben" (weir hoods) of different width for the Ochsow weir installation. Oct 3, 1941. In German. 1.50

5076-5090
PB L 73530 — Tests on models for the construction of a flooding valve with dissipation of energy on dock gates. Feb 21, 1941. In German. 1.50

5091-5122
PB L 73530 — Flow pebble motion and hydraulic calculation in weirs and sluice ways of water-power-stations. By P. Boss. Dec 19, 1944. In German. 3.50

5123-5126
PB L 73530 — The electromotive force induced into a rotor coil on polyphase motors having commutators. By e.h.R. Richter. n.d. In German. 1.50

PB L 73530-S. KARLSRUHE, GERMANY. TECHNISCHE HOCHSCHULE. Dissertations in natural science. (FIAT Microfilm Reel M-85, Frames 4401-5126, abstract cards) 1938-1945. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Brief abstracts are given in English of the reports in FIAT reel M-85.

PB L 82074. KAISER WILHELM INSTITUT FÜR EISENFORSCHUNG, DÜSSELDORF, GERMANY. Publications in chemistry and metallurgy. (FIAT Microfilm Reel X 82, Frames 2171-3076) 1939-1944. 905 f. Price: Microfilm-$7.00 - Enlargement print-$92.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $7.00. Please include PB and frame numbers when ordering individual items. In German.

| Frames | Title | Price |
|---|---|---|

This reel contains a reproduction of several books and printed lectures. These are:

2171-2353
PB L 82074 — "Thermo-chemistry of alloys", by Weibke and Kubaschewski. In German. $20.00
The experimental and theoretical foundations of the thermo-chemical methods. Heat of formation, mixing and fusion of alloys. 356 pages. 1943. Publisher: Springer, Berlin.

2354-2499
PB L 82074 — "Steel wire, its production and properties", by Anton Pomp. In German. 16.00
Volume 1 of the Stahleisen books. 275 pages. 1941. Publisher: Stahleisen, Düsseldorf.

2500-2597
PB L 82074 — "Friction and wear." In German. 11.00
Lectures of the VDI-wear meeting in Stuttgart, October 28 and 29, 1938. 190 pages. 1939. Publisher: VDI-publishing house, Berlin.

2598-2731
PB L 82074 — "Corrosion tables of metallic materials (according to attacking substances). Revised in 1944; original in 1937. By Franz Ritter. In German. 15.00
262 pages. 1944. Publisher: Springer, Vienna.

2732-2790
PB L 82074 — "Precision determination of lattice constants according to the asymmetrical method", by Straumanis and Levins. In German. 7.00
106 pages. 1940. Publisher: Springer, Berlin.

2791-2832
PB L 82074 — "Surface and endurance strength", by Heinrich Wiegand. In German. 6.00
83 pages. 1940.

2833-2933
PB L 82074 — "Gmelins Handbook of inorganic chemistry" (Masurium, system number 69 and rhenium, system number 70). In German. 12.00
164 pages. 1941. Publisher: Chemitz, Berlin.

2934-3076
PB L 82074 — "Fire galvanizing" by Heins Bablik. In German. 16.00
271 pages. 1941. Publisher: Springer, Berlin.

PB L 80600. LEAVER, F. W. and others. Nutritional studies on Piricularia oryzae. n. d. 16 p. Price: Microfilm-$1.00 - Photostat-$2.00
On the basis of these studies, the nutritional requirements of P. oryzae appears to be relatively non-specific except with regard to the vitamins, thiamine and biotin being the only ones required. This fungus requires organically combined nitrogen (preferably C(-amino acids) but a large number in which the nitrogen exists in amino, cyclic, imino or quaternary combination will support growth and conidia formation. No complete investigation was made of the essentiality of some of the other components of the medium, especially the inorganic ions. Although the fungus grew more uniformly on the chemically defined media than on natural media, such as rice polish agar, the degree of variation was considerable with all media. Perhaps greater uniformity would be gained through submerged dispersed growth in liquid media in place of surface growth. Although the production of conidia was less variable on an adequate chemically defined medium than on a natural medium (table 3), when certain of the pure nutrient compounds were omitted from chemically defined media to determine their essentiality (tables 4 and 6), the resulting cultures were sometimes as variable as those on rice polish agar.

PB L 82185. MINISTERIAL DOCUMENTS BRANCH, BERLIN. Railroad engineering and concrete construction. (FIAT Microfilm Reel B 248, Frames 9951-9999 and 1-813) 1938-1944. 862 f. Price: Microfilm-$7.00 - Enlargement print-$88.00.
This reel prepared by FIAT investigators in Germany consists mainly of correspondence and conference minutes. 26 individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $7.00. Please include PB and frame numbers when ordering individual items. In German.

| Frames | Title | Price |
|---|---|---|
| 9951-9999<br>1-7<br>PB L 82185 | Significance of the capacity of incoming and outgoing trains to the smooth operation of a shunting station and a railroad system. Submitted in the prize-competition of 1940 by the "Wissenschaftliche Vereinigung für Verkehrswesen E.V." In German. | $ 7.00 |
| 8-104<br>PB L 82185 | Forces between railroad cars determined by means of drawings. n.d. In German. | 11.00 |
| 105-192<br>PB L 82185 | Contribution to research on the lubrication processes in the drive rod bearing of the locomotive. Submitted in the prize-competition of 1940 of the "Wissenschaftliche Vereinigung für Verkehrswesen e.V." In German. | 10.00 |
| 193-212<br>PB L 82185 | A new controller and brake circuit for DC operated vehicles. n. d. In German. | 3.00 |
| 213-224<br>PB L 82185 | Controller and brake circuit with constant current for DC operated vehicles. n. d. In German. | 3.00 |
| 225-245<br>PB L 82185 | Meeting concerned with the construction of chimneys based on DIN standards. 1941. In German. | 4.00 |
| 246-266<br>PB L 82185 | DIN conference on the construction of concrete rings for wells. 1941-1942. In German. | 4.00 |
| 267-272<br>PB L 82185 | The "Kriegel" concrete building stone for the construction of concrete walls without wooden forms. 1940. In German. | 2.00 |
| 273-288<br>PB L 82185 | DIN standards for Portland cement, iron Portland cement, and blast furnace cement. By the "Deutsche Normenausschuss", published by "Zement Verlag, Berlin." 1942. In German. | 3.00 |
| 289-320<br>PB L 82185 | Correspondence relating to tamping of concrete by vibration. 1942-1944. In German. | 5.00 |
| 321-336<br>PB L 82185 | Directions for the use of an internal vibration machine for tamping of concrete. 1943-1944. In German. | 3.00 |
| 337-346<br>PB L 82185 | Tests with internal vibration machines. By Ferdinand Kaufmann. n. d. In German. | 2.00 |
| 347-353<br>PB L 82185 | Reports on the present state of trough and table shakers for the manufacture of concrete work pieces. By Kurt Walz. n. d. In German. | 2.00 |
| 354-363<br>PB L 82185 | Table type shaker machine. By Ferdinand Kaufmann. n. d. In German. | 2.00 |
| 364-376<br>PB L 82185 | Trough shaker apparatus for tamping of concrete. By Kurt Walz. n.d. In German. | 3.00 |
| 377-401<br>PB L 82185 | Electrotechnical safety measures for the operation of high frequency internal shakers. By Bruno Widmann and Ferdinand Kaufmann. n. d. In German. | 4.00 |
| 402-413<br>PB L 82185 | Experiences with internal and external shaking machines at construction sites of the "Siemens-Bauunion G.m.b.H." By A. Spilker and B. Widmann. n.d. In German. | 3.00 |
| 414-420<br>PB L 82185 | Experiences with internal and table type shakers in concrete workshops. By O. Bohusswitz, Wacker, and B. Widmann. n. d. In German. | 2.00 |
| 421-424<br>PB L 82185 | Inspection of concrete work shops. By Ferdinand Kaufmann. n. d. In German. | 2.00 |
| 425-431<br>PB L 82185 | Effects of vibration on setting concrete. By Kurt Walz. n. d. In German. | 2.00 |
| 432-433<br>PB L 82185 | Smoothening of concrete bodies. By Ferdinand Kaufmann. n. d. In German. | 2.00 |
| 434-436<br>PB L 82185 | Correspondence concerned with shaking concrete. 1944. In German. | 2.00 |
| 437-501<br>PB L 82185 | Tilting tests with "Peiner" steel beams. (Correspondence). 1941-1943. In German. | 8.00 |
| 502-576<br>PB L 82185 | "Torstahl", a special concrete steel. (Correspondence) 1938-1943. In German. | 9.00 |
| 577-784<br>PB L 82185 | Testing of steels used for welded construction. (Correspondence) 1941-1944. In German. | 2.00 |
| 785-813<br>PB L 82185 | Unalloyed material. (Correspondence) 1944. In German. | 5.00 |

PB L 74048. MINISTERIAL DOCUMENTS BRANCH, BERLIN. Technological reports in various fields. (FIAT Microfilm Reel B-251, Frames 2282-2712) 1933-1944. 431 f. Price: Microfilm-$5.25- Enlargement print-$43.50
This reel was prepared by FIAT investigators in Germany. 27 individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. In German.

| Frames | Title | Price |
|---|---|---|
| 2282-2345<br>PB L 74048 | Activity report for 1939/40. By Heinrich Fass of the Institut für Schwingungsforschung der Technischen Hochschule, Berlin. In German. | $6.50 |
| 2346-2401<br>PB L 74048 | The standard massive barracks and center aisle standard massive barracks. 1944. In German. This is vol. 15 of the periodical "Zu-gleich," published by "Otto Elsner, Berlin-Wien-Leipzig." | 6.00 |
| 2402-2403<br>PB L 74048 | Tank stations for trucks. By "Gasmotor Bielefeld Ing. S. Benda." 1933. In German. | 1.50 |
| 2404-2406<br>PB L 74048 | Blue light for air raid protection. By "Reichsminister der Luftfahrt," 1940. In German. | 1.50 |
| 2407-2423<br>PB L 74048 | Directions for the manufacture and use of blue paint for incandescent lamps. By "Reichsminister der Luftfahrt." 1940. In German. | 2.00 |
| 2424-2466<br>PB L 74048 | Electromagnetic testing device for ferromagnetic work pieces. 1939-1944. In German. | 2.50 |
| 2467-2476<br>PB L 74048 | Measuring methods for lathes. 1935. In German. | 1.50 |
| 2477-2533<br>PB L 74048 | Oxygen installations in repair shops of the "Reichsbahn." 1940. In German. | 6.00 |
| 2534-2538<br>PB L 74048 | Application for the release of lithium for anodic casting. 1944. In German. | 1.50 |

Miscellaneous (contd)

2539-2543 PB L 74048 — Radio active light substance. U and U compounds. 1944. In German. 1.50

2544 PB L 74048 — The use of N compounds in the glass industry. 1944. In German. 1.50

2545-2548 PB L 74048 — Storage of sulfuric acid. 1944. In German. 1.50

2549-2550 PB L 74048 — Methods in the field of fungus fermentation. 1941. In German. 1.50

2551-2552 PB L 74048 — Directives for the preservation of glands. 1942. In German. 1.50

2553-2554 PB L 74048 — The use of bile for cleaning agents. 1942. In German. 1.50

2555-2557 PB L 74048 — Physiology of "Haribo Ambrosetten" (sedative for nerves). 1943. In German. 1.50

2558-2560 PB L 74048 — Allocation of beef marrow for pharmaceutical preparations. 1943. In German. 1.50

2561 PB L 74048 — Listing of endocrine glands. 1944. In German. 1.50

2562-2563 PB L 74048 — Investigation of products used for the care of teeth. 1944. In German. 1.50

2564-2565 PB L 74048 — Wetting agents and paradental damages. 1944. In German. 1.50

2566-2621 PB L 74048 — Electric measurements of the moisture content of rayon staple and other textile fibers. Dissertation by Heinz Mahlo. 1940. In German. 6.00

2622-2630 PB L 74048 — Conditioning of rayon staple discussed at the session of the "Textil-Technische Kommission" from the "Fachgruppe Chemische Herstellung von Fasern der Wirtschaftsgruppe Chemische Industrie." 1941. In German. 1.50

2631-2637 PB L 74048 — Hygroscopic measurements of rayon staple by means of the "Lippke" moisture control installation. 1940. In German. 1.50

2638-2639 PB L 74048 — Letter to members of the "Textil-Technische Kommission," concerned with conditioning of rayon staple. 1940. In German. 1.50

2640-2648 PB L 74048 — Electrical measurements of the moisture content of rayon staple bales. 1940. In German. 1.50

2649-2700 PB L 74048 — Reports and articles on the "Leppke" water content control system. 1940. In German. 5.50

2701-2712 PB L 74048 — Sulfur and ammonia from coke-oven-gas. 1943. In German. 1.50

*PB L 86033. OKHAM, J. S. Gelatine and glue industry with subsidiaries, animal fats and residue fertilisers in western Germany. (BIOS Final Rept 1431, Item 22) Dec 1946. 129 p. Price: Microfilm-$4.00 - Photostat-$13.00

A total of 21 targets was visited, and these were divided into three main groups: Group A - 5 firms primarily manufacturing gelatine; Group B - 9 firms primarily manufacturing glue; and 7 firms manufacturing animal fats. This survey is a separate report for each target visited. Generally the type of information sought was: products manufactured; raw material used; method of process; type of plant; method of raw material handling and material in process handling; process control; finished product analysis and control testing; and form of finished product. In every case the investigations were made with the object of ascertaining pre-war operating conditions.

PB L 80822. RICHARDS, A. GLENN and KORDA, FRANCES H. Electron micrographs of centipede setae and microtrichia. 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

The report mentions work on serial sections of microtrichia of the common house centipede, Scutigera forceps by electron microscope and with a light microscope.

* PB L 81084. STREET, W. O. and ROEBUCK, D. H. Manufacture of compressed woollen felt and hair felt in Germany. (BIOS Final Rept 1450, Item 22) Jul 1947. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00

Twelve firms were investigated and details are given on individual plants inspected. Subjects covered are: pre-war and post-war organization and capacity; description of plant and machinery installed; type and cost of raw materials; manufacturing cost; research; labor; and export. Estimated productive capacity of the individual firms, and approximate wartime composition of felt products are given in tabulated form.

PB L 82123. U. S. OCCUPATION FORCES IN GERMANY. WEATHER SERVICE, BAD KISSINGEN, GERMANY. Aeronautical and meteorological research. (FIAT Microfilm Reel Y 52, Frames 993-1732) 1938-1942. 740 f. Price: Microfilm-$7.00 - Enlargement print-$75.00

This reel was prepared by FIAT investigators in Germany and consists of two parts. Both sections are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $7.00. Please include PB and frame numbers when ordering individual items. In German.

| Frames | Title | Price |
|---|---|---|
| 993-1316 PB L 82123 | 1942/1943 yearbook of the "Deutschen Akademie der Luftfahrtforschung." In German. This volume has already been made available as PB 25249, vol. 3, page 58, this Bibliography. | $34.00 |

Manual of meteorology by Hann-Süring, consisting of seven parts and eight issues, 1938/42. Published by Willibald Keller, Leipzig.

| | | |
|---|---|---|
| 1317-1334 PB L 82123 | Composition, stratification and extension of the atmosphere. First part. In German. | 3.00 |
| 1335-1355 PB L 82123 | Radiation. Second part. In German. | 4.00 |
| 1356-1432 PB L 82123 | Temperature. Third part. In German. | 9.00 |
| 1433-1476 PB L 82123 | Air pressure. Fourth part. In German. | 6.00 |
| 1477-1578 PB L 82123 | Humidity of the air, condensation, clouds, rain, snow, etc. Fifth part. In German. | 12.00 |
| 1579-1676 PB L 82123 | Motion of the air. Sixth part. In German. | 11.00 |
| 1677-1732 PB L 82123 | Weather. Seventh part. In German. | 7.00 |

PB L 82090. U.S. OCCUPATION FORCES IN GERMANY. WEATHER SERVICE, BAD KISSINGEN, GERMANY. Decimal classification

Miscellaneous (contd)

system in military chemistry and meteorological publications. (FIAT Microfilm Reel Y 25, Frames 3212-3882) 1917-1942. 671 f. Price: Microfilm-$7.00 - Enlargement Print-$69.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $7.00. Please include PB and frame numbers when ordering individual items. In German and Dutch.

| Frames | Title | Price |
|---|---|---|
| 3212-3450<br>PB L 82090 | Military chemistry with a decimal classification of the factors of fire, explosion, smoke screens, smokes and poisons. By Langhans. 1937. In German. Published by "Offene Worte," Berlin. | $25.00 |
| 3451-3647<br>PB L 82090 | Maritime meteorology and oceanography. By P. Bossen. 1940. In Dutch. Published by "Kweekschool voor de Zeevaart," Amsterdam. | 21.00 |
| 3648-3728<br>PB L 82090 | Wind power in theory and practice. By K. Bilau. 1927. In German. Published by "Verlagsbuchhandlung Paul Parey," Berlin. | 10.00 |
| 3729-3759<br>PB L 82090 | Measurements of the exposure of buildings to the light of the sun. By Walter Neuzil. 1942. In German. Published by "Bauwelt Verlag," Berlin. | 5.00 |
| 3760-3848<br>PB L 82090 | Evaluation of the observations obtained from ascending radio sondes by means of "Hollerith" punch card machines. By H. Rauschelbach, "Marine observatorium." In German. | 10.00 |
| 3849-3875<br>PB L 82090 | Introduction to the meteorological research of large areas. By Franz Baur. 1937. In German. Published by "B. Teubner," Leipzig and Berlin. | 4.00 |
| 3876-3882<br>PB L 82090 | Problem of calms in air layers. By E. Palmen. 1941. In German. Published by "Akademische Buchhandlung, Helsingfors and "Otto Harrassowitz," Leipzig. | 2.00 |

PB L 82118. U. S. OCCUPATION FORCES IN GERMANY, WEATHER SERVICE, BAD KISSINGEN, GERMANY. Publications in meteorology and aeronautics. (FIAT Microfilm Reel Y 55, Frames 3177-3643) 1940-1943. 467 f. Price: Microfilm-$7.00 - Enlargement print-$48.00.
This reel was prepared by FIAT investigators in Germany. 31 individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $7.00. Please include PB and frame numbers when ordering individual items. In French and in German.

| Frames | Title | Price |
|---|---|---|
| Publications of the "Institut royal meteorologique de Belgique". Editor "Etablissement d'Imprimerie l'Avenir, Bruxelles." | | |
| 3177-3195<br>PB L 82118 | Fronts and cyclones over the Northern Atlantic, Western and Central Europe. By Jacques Jean Mieghem. 1942. In French. | $ 3.00 |
| 3196-3200<br>PB L 82118 | The spectrum of the stars. By Marcel Nicolet. 1942. In French. | 2.00 |
| 3200-3204<br>PB L 82118 | The atmospheric temperature of the earth up to 100 Km. By Marcel Nicolet. 1942. In French. | 2.00 |
| 3205-3293<br>PB L 82118 | Introduction to the study of the relationship between the phenomena of the sun and the earth: The Sun by Marcel Nicolet. 1943. In French. | 10.00 |
| 3294-3328<br>PB L 82118 | Atmospheric thermodynamics. Part 1-Theory. By Jacques van Mieghem. 1943. In French. | 5.00 |
| Various articles from periodicals. In French. | | |
| 3329-3341<br>PB L 82118 | Cosmic radiation. By Alphonse M. Descamps. 1943. In French. | 3.00 |
| 3342-3350<br>PB L 82118 | Variations of pressure, temperature, and vertical thermal gradient in the atmosphere. By L. Dufour. 1943. In French. | 2.00 |
| 3351-3359<br>PB L 82118 | The general magnetic field of the sun and the observation of cosmic rays. By Alphonse M. Descamps. 1943. In French. | 2.00 |
| Publications of the "Office National Meteorologique". In French. | | |
| 3360-3369<br>PB L 82118 | Chemical relationships in meteorology. By Borrel. 1940. In French. | 2.00 |
| 3370-3384<br>PB L 82118 | The composition of the atmosphere. By Auberger. 1941. In French. | 3.00 |
| 3385-3399<br>PB L 82118 | Water vapor in the atmosphere. By M. Girand. 1941. In French. | 3.00 |
| 3400-3412<br>PB L 82118 | The historical development of the synoptic method. By Mironovitch. 1941. In French. | 3.00 |
| 3413-3444<br>PB L 82118 | Still and motion picture photography in meteorology. By Mezin. 1941. In French. | 5.00 |
| 3445-3460<br>PB L 82118 | The Sun. By Nion. 1941. In French. | 3.00 |
| 3461-3482<br>PB L 82118 | Atmospheric turbulence. By Paillettaz. 1941. In French. | 4.00 |
| 3483-3505<br>PB L 82118 | The zones of great activity in the atmosphere. By Mironovitch. 1941. In French. | 4.00 |
| 3506-3536<br>PB L 82118 | Hoar frost. By Gilbert. 1941. In French. | 5.00 |
| 3537-3554<br>PB L 82118 | Calculatory elements of probability. By Bernadet. 1941. In French. | 3.00 |
| 3555-3566<br>PB L 82118 | Condensation clouds in the atmosphere. By Delatour. 1941. In French. | 3.00 |
| 3567-3593<br>PB L 82118 | Meteorology in ancient times. By Jeunet. 1941. In French. | 4.00 |
| 3594-3614<br>PB L 82118 | Hail. By Gassies. 1941. In French. | 4.00 |
| 3615-3621<br>PB L 82118 | Study of the positions of the tails of weathervanes. (No author) 1942. In French. | 2.00 |
| "Technische Berichte" No 4, 1940. Edited by the "Zentrale fuer Wissenschaftliches Berichtswesen ueber Luftfahrtforschung des Generalluftzeugmeisters (ZWB)". In German. | | |
| 3622-3628<br>PB L 82118 | The control forces at some stationary flight conditions and their influence on the design of aircraft. By G. Bock. In German. | 2.00 |
| 3628-3629<br>PB L 82118 | Possibilities of shortening the construction time of axial aircraft engine super chargers. By B. Eckert. In German. | 2.00 |
| 3629-3632<br>PB L 82118 | Gliding in the Alps. By E. Klöckner. In German. | 2.00 |
| 3632-3633<br>PB L 82118 | The fast FKFS method for determining the lead content in aircraft fuels. By O. Widmaier. In German. | 2.00 |
| 3633-3636<br>PB L 82118 | Testing of pressed resin bearings in the Jumo 205 engine. By E. Gilbert. In German. | 2.00 |

Miscellaneous (contd)

| | | |
|---|---|---|
| 3636<br>PB L 82118 | Extreme brush wear of electrical machinery during high-altitude flying and its elimination. By H. Viehmann. In German. | 2.00 |
| 3637-3638<br>PB L 82118 | Observations at yawing. By W. Stender. In German. | 2.00 |
| 3639-3642<br>PB L 82118 | Short articles. In German. | 2.00 |
| 3642-3643<br>PB L 82118 | Reports from German research institutions. In German. | 2.00 |

PB L 74925. VIEWEG, FRIEDRICH, & SOHN, BRAUNSCHWEIG, GERMANY. Publications in various fields. (FIAT Microfilm Reel # 34, Frames 1-499) 1940-1942. 499 f. Price: Microfilm-$5.75 - Enlargement Print-$50.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $5.75. Please include PB and frame numbers when ordering individual items. In German.

| Frames | Title | Price |
|---|---|---|
| 1-22<br>PB L 74925 | Light steel used for the construction of machinery and tools. By Heinrich Heitzer and Friedrich Wilhelm Griese. 1941. In German. No. 8 of the publication "Aus Theorie und Praxis der Elektroschweissung." | $2.50 |
| 23-86<br>PB L 74925 | Precision measurements of capacitances, dielectric losses, and dielectric constants. By Erich Blech Schmidt. 1940. In German. No. 2 of the publication "Verfahrens- und Messkunde der Naturwissenschaften." | 6.50 |
| 87-161<br>PB L 74925 | Introduction to internal ballistics. By E. Bollé. 1941. In German. | 7.50 |
| 162-198<br>PB L 74925 | Thermal expansion of solid and liquid substances. By Hermann Ebert. 1940. In German. No. 1 of the publication "Verfahrens- und Messkunde der Naturwissenschaften." | 4.00 |
| 199-272<br>PB L 74925 | Sauerkraut and similar fermentation products. By Fritz Eichholz. 1941. In German. Vol. 96 of "Die Wissenschaft." By Wilhelm Westphal. | 7.50 |
| 273-499<br>PB L 74925 | The climate of the air layer close to the earth. By Rudolf Geiger. 1942. In German. Vol. 78 of "Die Wissenschaft." By Wilhelm Westphal. | 23.00 |

## PATENTS

## CHEMICALS AND ALLIED PRODUCTS

PB L 20546. I. G. FARBENINDUSTRIE A. G., LEVERKUSEN, GERMANY. Patent applications of the Leverkusen office, 1939-1941. (FIAT Microfilm Reel Patents 156; Frames 1126-2206, 16 mm microfilm) Mar 1946. 1115 f. Price: Microfilm-$6.00 - Enlargement print-$111.50.

This reel is a continuation of the listing of patents on reel Patents 155, PB 20547. The complete index of Hoechst patent office can be found on reel Patents 155, PB 20547. The individual items on this reel, Patents 156, are listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased as a microfilm for $6.00. Please include the applicable PB number of each individual item ordered. In German.

| PB Numbers<br>Frames | Title | Price |
|---|---|---|
| L 66251<br>Frames<br>1125-1127 | Process for obtaining pure amide-like compounds. Ger. patent application I.67475 IVd/12o, dated Jul 18, 1940. In German. | $ 1.50 |
| L 66252<br>Frames<br>1128-1133 | Process for mfg. condensation products. Ger. patent application I.67491 IVe/39e, dated Jul 20, 1940. In German. | 1.50 |
| L 66253<br>Frames<br>1134-1138 | Process for producing sulfonamide compounds. Ger. patent application I.67492 IVe/12q, dated Jul 20, 1940. In German. | 1.50 |
| L 66254<br>Frames<br>1139-1141 | Process for preparing pantothenic acid. Ger. patent application I.67493 IVd/12o, dated Jul 20, 1940. In German. | 1.50 |
| L 66255<br>Frames<br>1142-1144 | Cleansing agent. Ger. patent application I.67500 IVd/81, dated Jul 20, 1940. In German. | 1.50 |
| L 66256<br>Frames<br>1145-1150 | Production of moulded masses. Ger. patent application I.67512 IVe/39b, dated Jul 27, 1940. In German. | 1.50 |
| L 66257<br>Frames<br>1151-1155 | Process for fast colors. Ger. patent application I.67513 IVd/8m, dated Jul 27, 1940. In German. | 1.50 |
| L 66258<br>Frames<br>1156-1162 | Process for production of tanning agents. Ger. patent application I.67520 IVe/12q, dated Jul 29, 1940. In German. | 1.50 |
| L 66259<br>Frames<br>1163-1174 | Process for producing aromatic ketones. Ger. patent application I.67559 IVe/12o, dated Jul 31, 1940. In German. | 1.50 |
| L 66260<br>Frames<br>1175-1179 | Process for obtaining suitable substances to combat virus diseases of plants. Ger. patent application I.67570 IVe/22g, dated Jul 24, 1940. In German. | 1.50 |
| L 66261<br>Frames<br>1180-1189 | Process for producing ethers and thioethers. Ger. patent application I.65933 IVd/12o, dated Nov 9, 1939. In German. | 1.50 |

L 66262 Frames 1190-1192 — Process for preparing cyanoethers. Ger. patent application I.66624 IVd/12o, dated Mar 8, 1940. In German. 1.50

L 66263 Frames 1193-1195 — Process for preparing optically active pantothenic acid. Ger. patent application I.67615 IVd/12o, dated Aug 10, 1940. In German. 1.50

L 66264 Frames 1196-1197 — Process for manufacturing condensation products. Ger. patent application I.67635 IVc/12p, dated Aug 9, 1940. In German. 1.50

L 66265 Frames 1198-1200 — Process for manufacturing condensation products. Ger. patent application I.68043 IVd/12o, dated Oct 15, 1940. In German. 1.50

L 66266 Frames 1201-1202 — Process for producing acrylamide. Ger. patent application I.67648 IVc/12o, dated Aug 13, 1940. In German. 1.50

L 66267 Frames 1203-1207 — Plasticizers and elasticizers. Ger. patent application I.67662 IVc/39b, dated Aug 16, 1940. In German. 1.50

L 66268 Frames 1208-1210 — Plasticizers and elasticizers. Ger. patent application I.67663 IVc/39b, dated Aug 16, 1940. In German. 1.50

L 66269 Frames 1211-1216 — Process for producing fast colors. Ger. patent application I.67687 IVd/8m, dated Aug 21, 1940. In German. 1.50

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Process for manufacturing condensation products. Ger. patent application I.68703 IVc/12o, dated Jan 22, 1941. In German. 1.50

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L 66402 Frames 1815-1820
Filter for absorption of ultraviolet rays. Ger. patent application I. 69007 IVa/30i, dated Feb 24, 1941. In German. 1.50

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Process for obtaining caprolactam. Ger. patent application I.68797 IVc/12p, dated Feb 3, 1941. In German. 1.50

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Production of water-soluble aluminum fluoride. Ger. patent application I.68817 IVb/12i, Feb 6, 1941. In German. 1.50

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L 66435 Frames 1964-1969 — Solvents, plasticizing, and gelatinizing agents. Ger. patent application I.69273 IVc/39b, dated Mar 28, 1941. In German. 1.50

L 66436 Frames 1970-1971 — Process for improving electrolytic chromium coatings. Ger. patent application I.66662 IV/48a, dated Mar 12, 1940. In German. 1.50

L 66437 Frames 1972-1977 — Process for detecting chemical warfare agents of the "Lost" group. Ger. patent application I.67831 IXb/42 l, dated Sep 16, 1940. In German. 1.50

L 66438 Frames 1978-1980 — Device for continuous production of hydrofluoric acid. Ger. patent application I.68381 IVb/12i, dated Nov 30, 1940. In German. 1.50

L 66439 Frames 1981-1983 — Process for producing chlorinated 3,6-dinitrocarbazoles. Ger. patent application I.69427 IVc/12p, dated Apr 22, 1941. In German. 1.50

L 66440 Frames 1984-1988 — Process for coloring with leukoesters from vat dyes. Ger. patent application I.69378 IVd/8m, dated Apr 12, 1941. In German. 1.50

L 66441 Frames 1989-1990 — Process for obtaining titanium tetrachloride. Ger. patent application I. 69293 IVb/12i, dated Apr 3, 1941. In German. 1.50

L 66442 Frames 1991-1992 — Process for coloring with leukosulfuric acid esters from vat dyes. Ger. patent application I.69401 IVd/8m, dated Apr 12, 1941. In German. 1.50

L 66443 Frames 1993-1995 — Process for coloring with leukosulfuric acid esters of vat dyes. Ger. patent application I.69400 IVd/8m, dated Apr 12, 1941. In German. 1.50

L 66444 Frames 1996-2002 — Process for vegetative reproduction of plants. Ger. patent application I.69274 III/45f, dated Apr 1, 1941. In German. 1.50

L 66445 Frames 2003-2006 — Process for manufacturing condensation products. Ger. patent application I.69300 IVc/12p, dated Apr 3, 1941. In German. 1.50

L 66446 Frames 2007-2009 — Thread brake for textile machinery. Ger. patent application I.69344 VII/86a, dated Apr 9, 1941. In German. 1.50

L 66447 Frames 2010-2014 — Process and device for spraying plastic material, particularly viscous pastes. Ger. patent application I.69328 XII/75a, dated Apr 8, 1941. In German. 1.50

L 66448 Frames 2015-2019 — Manufacture of plywood. Ger. patent application I.69324 XII/38c, dated Apr 5, 1941. In German. 1.50

L 66449 Frames 2020-2024 — Process for matting structures of regenerated cellulose or cellulose derivatives with colored pigments. Ger. patent application I.69376 IVd/8m, dated Apr 4, 1941. In German. 1.50

L 66450 Frames 2025-2029 — Process for producing carboxylic acid amide compounds. Ger. patent application I.69347 IVd/12p, dated Apr 7, 1941. In German. 1.50

L 66451 Frames 2030-2033 — Plasticizer for polyvinyl chloride. Ger. patent application I.69336 IVc/39b, dated Apr 5, 1941. In German. 1.50

L 66452 Frames 2034-2037 — Process for vulcanizing synthetic rubber onto metals. Ger. patent application I.69337 IVc/39b, dated Apr 7, 1941. In German. 1.50

L 66453 Frames 2038-2039 — Process for joining chromium-plated objects by welding. Ger. patent application I.69323 Ib/49h, dated Apr 5, 1941. In German. 1.50

L 66454 Frames 2040-2042 — Process for production of heterocyclic compounds. Ger. patent application I.69351 IVc/12q, dated Apr 8, 1941. In German. 1.50

L 66455 Frames 2043-2047 — Production of active alumina. Ger. patent application I.69380 IVb/12m, dated Apr 16, 1941. In German. 1.50

L 66456 Frames 2048-2053 — Doubling of textiles, paper, leather and other material. Ger. patent application I.69377 IVc/39b, dated Apr. 12, 1941. In German. 1.50

L 66457 Frames 2054-2056 — Process for spinning cupric ammonium cellulose solutions. Ger. patent application I.69379 IVc/29b, dated Apr 12, 1941. In German. 1.50

L 66458 Frames 2057-2058 — Cooling of chlorine gas. Ger. patent application I.69417 IVb/12i, dated Apr 21, 1941. In German. 1.50

L 66459 Frames 2059-2064 — Process for producing vat dyes of the anthraquinone series. Ger. patent application I.69439, IVd/22b, dated Apr 24, 1941. In German. 1.50

L 66460 Frames 2065-2068 — Process for producing aldehydes. Ger. patent application I.69438 IVc/12o, dated Apr 23, 1941. In German. 1.50

L 66461 Frames 2069-2070 — Process for producing pyridine. Ger. patent application I.69440 IVc/12q, dated Apr 24, 1941. In German. 1.50

L 66462 Frames 2071-2075 — Process for reducing the light sensitivity of sulfuric acid esters of leuko vat dyes. Ger. patent application I.69511 IVd/22b, dated Apr 30, 1941. In German. 1.50

L 66463 Frames 2076-2080 — Process for preparing halogenarylmercapatans. Ger. patent application I.69512 IVd/12o, dated Apr 30, 1941. In German. 1.50

L 66464
Frames
2081-2086
Process for manufacturing condensation products. Ger. patent application I.69518 IVc/39c, Apr 30, 1941. In German. 1.50

L 66465
Frames
2087-2087A
Process for producing fibers and threads with improved qualities from cupric ammonium cellulose solutions. Ger. patent application I.69471 IVc/29b, Apr 26, 1941. In German. 1.50

L 66466
Frames
2088-2089
Process for producing threads or fibers from regenerated cellulose. Ger. patent application I.69470 IVc/29b, dated Apr 26, 1941. In German. 1.50

L 66467
Frames
2090-2092
Process for obtaining phenols from hydrocarbons containing phenol or from phenols containing hydrocarbons. Ger. patent application I.69473 IVc/12q, dated Apr 28, 1941. In German. 1.50

L 66468
Frames
2093-2095
Process for producing stable solutions. Ger. patent application I.69514 IVc/12p, dated Apr 30, 1941. In German. 1.50

L 66469
Frames
2096-2097
Process for producing a vat dye. Ger. patent application I.69515 IVd/22b, Apr 30, 1941. In German. 1.50

L 66470
Frames
2098-2100
Process for producing rubberlike mixed polymerizates. Ger. patent application I.68471 IVc/39c, dated Dec 17, 1940. In German. 1.50

L 66471
Frames
2101-2103
Process for producing unsaturated thioethers. Ger. patent application I.68694 IVd/12o, dated Jan 18, 1941. In German. 1.50

L 66472
Frames
2104-2105
Device for redirecting the thread bundle in the extension spinning process. Ger. patent application I.69574 VII/29a, dated May 10, 1941. In German. 1.50

L 66473
Frames
2106-2108
Process for production of infusion solutions suitable as substitutes for blood serum. Ger. patent application I.69197 IVa/30h, dated Mar 20, 1941. In German. 1.50

L 66474
Frames
2109-2113
Process for a liquid seed steep. Ger. patent application I.69576 IVa/45 1, dated May 10, 1941. In German. 1.50

L 66475
Frames
2114-2121
Process and apparatus for a short-time treatment of sensitive material with gaseous agents. Ger. patent application I.69482 IVa/12a, dated Apr 24, 1941. In German. 1.50

L 66476
Frames
2122-2124
Process for purifying ketones. Ger. patent application I.69472 IVc/12c, dated Apr 26, 1941. In German. 1.50

L 66477
Frames
2125-2130
Rodenticides. Ger. patent application I.69544 IVa/45 1, dated May 5, 1941. In German. 1.50

L 66478
Frames
2131-2132
Easily acetylated cellulose. Ger. patent application I.69559 IVc/12c, dated May 9, 1941. In German. 1.50

L 66479
Frames
2133-2134
Process for finishing artificial fibers. Ger. patent application I.69590 IVd/8k, dated May 9, 1941. In German. 1.50

L 66480
Frames
2135-2136
Process for accelerating the souring of milk and milk products. Ger. patent application I.69575 IVa/53e, dated May 9, 1941. In German. 1.50

L 66481
Frames
2137-2138
Process for thermal splitting of malic acid esters or their acyl compounds. Ger. patent application I.69546 IVd/12c, dated May 7, 1941. In German. 1.50

L 66482
Frames
2139-2140
Process for producing threads and fibers of ammoniacal cupric oxide cellulose solution. Ger. patent application I.69524 IVc/29b, dated May 2, 1941. In German. 1.50

L 66483
Frames
2141-2143
Process for producing vat dyes. Ger. patent application I.69523 IVd/22b, dated Apr 30, 1941. In German. 1.50

L 66484
Frames
2144-2145
Process for obtaining pyrocatechol. Ger. patent application I.69535 IVc/12q, dated May 3, 1941. In German. 1.50

L 66485
Frames
2146-2147
Process for obtaining bivalent phenols. Ger. patent application I.69536 IVc/12q, dated May 3, 1941. In German. 1.50

L 66486
Frames
2148-2150
Process for producing N-acylated beta-aminoethylmethyl ketones. Ger. patent application I.69591 IVc/12o, dated May 10, 1941. In German. 1.50

L 66487
Frames
2151-2152
Process for producing addition compounds. Ger. patent application I.69540 IVc/12o, dated May 6, 1941. In German. 1.50

L 66488
Frames
2153-2154
Obtaining of yeast. Ger. patent application I.69545 IVa/6a, dated May 5, 1941. In German. 1.50

L 66489
Frames
2155-2157
Promoting the growth of plants. Ger. patent application I.69557 IVb/16, dated May 8, 1941. In German. 1.50

L 66490
Frames
2158-2168
Recovery of ammonia and heat from used precipitating liquor in artificial copper silk process. Ger. patent application I.69664 IVc/29b, dated May 22, 1941. In German. 1.50

L 66491
Frames
2169-2174
Polyurethanes. Ger. patent application I.69558 IVc/12c, dated May 8, 1941. In German. 1.50

L 66492
Frames
2175-2176
Process for producing cellulose wool. Ger. patent application I.69577 IVc/29b, dated May 10, 1941. In German. 1.50

L 66493
Frames
2177-2178
Process for conveying copper in a circulatory flow in artificial copper fiber production. Ger. patent application I.69615 IVc/29b, dated May 15, 1941. In German. 1.50

L 66494
Frames
2179-2181
Production of luminous paints containing zinc sulfide. Ger. patent application I.69613 IVb/

22f, dated May 15, 1941. In German. 1.50

L 66495 Frames 2182-2186 — Method and device for rectification. Ger. patent application I.69638 IVa/12o, dated May 19, 1941. In German. 1.50

L 66496 Frames 2187-2192 — Rubber packing for rotary furnace. Ger. patent application I.69724 VI/40a, May 19, 1941. In German. 1.50

L 66497 Frames 2193-2195 — Process for producing threads, fibers, etc., from ammoniacal cupric oxide cellulose solutions by the extension spinning method. Ger. patent application I.69578 IVc/29b, dated May 19, 1941. In German. 1.50

L 66498 Frames 2196-2206 — Process for producing polyene aldehydes. Ger. patent application I.69612 IVd/12o, dated May 14, 1941. In German. 1.50

L 66280 — Index of patent applications of the Leverkusen office, 1939-1941, contained on Reel Pats 156. 3.50

PB L 19921. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Patent applications from the Photo and Artificial Silk Patent Division, Wolfen, 1942-1943. (FIAT Microfilm Reel Patents 145) Mar 1946. 988 f. Price: Microfilm-$6.00 - Enlargement print-$99.00.
FIAT microfilm Reel Patents 145 is the fifth in a series of six reels containing the patent applications of the I. G. Farben plant at Wolfen. The first four reels have appeared in previous issues. (See PB 19925 on page 211, PB 19924 on page 364 and PB 19923 on page 821 of volume 3, and PB 19922 on page 322 of volume 4.) The items in this reel, covering generally the period between October 1942 and December 1943 pertain to photography (black-and-white and color emulsions, dyes, cameras, enlargers, motion pictures and sound tracks) to devices and methods for the production of rayon fibers, to polymers, especially polyamides and their conversion into useful forms and to plasticizers and solvents. These items are available individually; brief abstracts and their respective PB numbers appear below. In German.

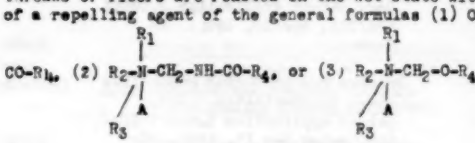
PB L 45624. JOINT INTELLIGENCE OBJECTIVES AGENCY. Patent applications from the Photo and Artificial Silk Patent Division, Wolfen. Index 1942-1943. (Index to Enlargement Print of FIAT Microfilm Reel 145, PB 19921) Mar 1946. 32 p. Price: Microfilm-$1.00 - Photostat-$3.00
This index contains PB numbers, German and English titles, frame numbers, and application dates and numbers for the individual patent applications comprising FIAT Microfilm Reel Patents 145, PB 19921.

PB L 45625. DEUTSCHE CELLULOID-FABRIK A. G., EILENBURG, GERMANY. Process for hardening phenol-aldehyde resins capable of being hardened in the cold. (Patent application D 88 860 IVc/39b) (Enlargement Print of Frames 4471-4473 of FIAT Microfilm Reel 145, PB 19921) Oct 1942. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
The stability of phenol resin-varnishes can be increased if 10% of "dimethanesulfonlyimide," "Dimesylimid," alone or in mixture with other hardening agents is added to the phenol resins. In addition the resins can contain polyamides. In German.

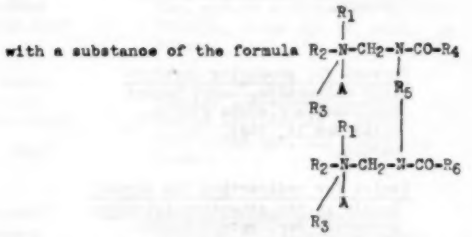
PB L 45626. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for preparing polyamides. (Patent application I 73 284 IVc/39c) (Enlargement Print of Frames 4474-4478 of FIAT Microfilm Reel 145, PB 19921) Oct 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Amino compounds with two H-containing basic N-atoms are reacted in the presence of heat with N,N'-acylene-bis-lactams which are derived from non-polymerizable mononuclear lactams. Besides the above compounds other bifunctional substances are used which form polyamides alone or together with diamines without the formation of water. The number of the amino groups and that of the additional modified carboxyl groups should be approximately equivalent. Polyamide forming lactams should be present or form by separation, preferably in the presence of an anhydrous alkaline catalyst. In German.

PB L 45627. DEUTSCHE CELLULOID-FABRIK A. G., EILENBURG, GERMANY. Process for the bonding of thermoplastic aggregates to surfaces of other materials. (Patent application D 88 896 XII/39a) (Enlargement Print of Frames 4479-4483 of FIAT Microfilm Reel 145, PB 19921) Oct 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Thermoplastics are employed the hardening temperature of which is below the freezing point of the material to which it is to be bonded. An elastic cement, i.e., a solution of polyisobutylene in styrene, is used as bonding material. Bonding is achieved by heating. In German.

PB L 45628. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for rendering water repellent qualities to natural or synthetic threads and fibers. (Patent application I 73292 IVd/8k) (Enlargement Print of Frames 4484-4490 of FIAT Microfilm Reel 145, PB 19921) Oct 1942. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Threads or fibers are reacted in the wet state with solutions of a repelling agent of the general formulas (1) $OH-CH_2-NH-CO-R_4$, (2) $R_2-N(R_1)-CH_2-NH-CO-R_4$, or (3) $R_2-N(R_1)-CH_2-O-R_4$ together



with a substance of the formula



After treatment and removal of the excess solution the material is dried and heated to temperatures of 100-130°C. N, $R_1$, $R_2$, $R_3$ as a unit stand for pyridine or another tertiary amine. $R_4$, $R_5$ and $R_6$ stand for hydrocarbon radicals and A for a monovalent acid anion. $R_4$, $R_5$ and $R_6$ can be substituted and the carbon chain can be interrupted by heteroatoms or atom groups such as O, S, NH, N-alkyl, etc. In German.

PB L 45640. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for the determination of the printing light color (or intensity) in printing multicolored pictures. (Patent application I 73311 IIa/57a) (Enlargement Print of Frames 4491-4495 of FIAT Microfilm Reel 145, PB 19921) Oct 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00.
An exact determination of the printing filter may be accomplished by the following method. One or more photocells are combined with three color filters in such a way that any composition of the light acting on the positive film (leading to a neutral gray reproduction), in combination with the photocells and the three filters, gives rise to photoelectric currents that are in a mutually constant relation. In other words, two color segments which are reproduced non-identically on the positive film must consequently show a different relation of the photoelectric currents. On the other hand, dyestuff combinations with equal relation of photoelectric currents must appear in identical colors on the film. Consequently, in order to determine the quality of the printing light the photography of a gray pattern is compensated by correction filters in such a way that the photoelectric currents measured (with a system of photocells and filters) in correspondence to the number of color components are in constant interrelation fixed for the printing material. In German.

PB L 45629. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Case for photographic cameras and instruments. (Patent application I 73310 IXa/42h) (Enlargement Print of Frames 4496-4500 FIAT Microfilm Reel 145, PB 19921) Oct 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00.
The case for the photographic apparatus is supplied with legs which are screwed to the case. Other attachments to the case are listed. In German.

PB L 45630. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Preparation of subtractive multicolored pictures by printing a color negative on positive material. (Patent application I 73322 IVa/57b) (Enlargement Print of Frames 4501-4504 of FIAT Microfilm Reel 145, PB 19921) Oct 1942. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Material for the negative is used for which the position of the maximum of the absorption curve of the dye, especially of the purple dye, differs from the position of the maximum of the absorption curve of the dye of the material for the positive. The maximum of the absorption curve for the negative material shall be shifted in the direction of longer wave lengths, while both materials are sensitized in such a manner that the maxima of sensitization of the positive material coincide with the maxima of absorption of the dye of the negative material. In German.

PB L 45631. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Preparation of nitrogen-containing polycondensation products. (Patent application I 73395 IVc/39c) (Enlargement Print of Frames 4505-4507 of FIAT Microfilm Reel 145, PB 19921) Oct 1942. 3 p. Price: Microfilm$1.00 - Photostat-$1.00.
In the presence of a solvent or diluent, phosgene is reacted with the halogen acid of aminoalcohols or aminothioalcohols which have amino- and hydroxyl- or mercapto- groups linked to the saturated carbon atoms and which have also at least four chain-forming atoms between the terminal reactive groups. The product is condensed by heating. In German.

PB L 45632. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for improving the properties of shaped bodies made from polyacrylo-nitrile and acrylo-nitrile copolymers. (Patent application I 73397 IVc/39b) (Enlargement Print of Frames 4508-4510 of FIAT Microfilm Reel 145, PB 19921) Oct 1942. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
After shaping, films, fibers or other molded bodies made of polyacrylonitrile are treated in aqueous alkalies or acid solutions or vapors. These solutions can also contain additions of wetting and swelling agents, dyestuffs, non-dissolving organic liquids or, if necessary, neutral salts. In German.

PB L 45633. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for improving the properties of shaped products. (Patent application I 73396 IVc/39b) (Enlargement Print of Frames 4511-4513 of FIAT Microfilm Reel 145, PB 19921) Oct 1942. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Films and fibers consisting of polyacrylonitrile or its copolymers are improved by treating these substances in solution, or when already shaped into aggregates, with aldehydes, preferably formaldehyde, or with such compounds as react similar to formaldehyde. This treatment may be carried out in the presence of catalysts. In German.

PB L 45634. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for polymerization of lactams of $\omega$-amino carboxylic acids. (Patent application I 73398 IVc/39c) (Enlargement Print of Frames 4514-4518 of FIAT Microfilm Reel 145, PB 19921) Oct 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
Using alkaline substances, which begin reactions, cyclic amides of aminocarboxylic acids with seven or more ring members are quickly transformed into the highly polymeric state if the melted lactam heated to the temperature of polymerization is thoroughly washed and rinsed with an anhydrous indifferent gas. In German.

PB L 45635. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Preparation of polyurethan compounds. (Patent application I 73422 IVc/39c) (Enlargement Print of Frames 4519-4525 of FIAT Microfilm Reel 145, PB 19921) Oct 1942. 7 p.
Price: Microfilm-$1.00 - Photostat-$1.00
S-alkyl esters of glycol-bis-monothiocarbonic acid of the general formula $-S-\overset{\overset{O}{\|}}{C}-R-\overset{\overset{O}{\|}}{C}-S-$ in which the free valences are linked to the S like esters and R stands for a bivalent organic group (if necessary broken by heteroatoms or groups) are reacted with amino compounds which have at least two H-containing basic N-atoms, preferably with two amino groups. In German.

PB L 45636. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Preparation of high polymers with amide groups in the chain. (Patent application I 73421 IVc/39c) (Enlargement Print of Frames 4526-4533 of FIAT Microfilm Reel 145, PB 19921) Oct 1942. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Bifunctional substances or mixtures of substances which contain about equivalent amounts of hydroxyl- (mercepto- ) and, if necessary, amino groups on the one hand, and S-ester groups of monothiocarbamic acid on the other are heated to decomposition temperature. In German.

PB L 45637. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Preparation of nitrogen-containing glycols. (Patent application I 73449 IVc/12qu) (Enlargement Print of Frames 4534-4538 of FIAT Microfilm Reel 145, PB 19921) Oct 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00.
New nitrogen-containing glycols or dimercaptans which have manifold applications are obtained if amino-alkanols or -thiols, especially those with three or more C-atoms between N-atom and hydroxyl- or mercapto-group are reacted with (1) chloride esters of glycol-bis-carbonic acid or (2) their sulfur analogues or (3) similarly-reacting esters of glycol-bis-carbonic acid with aromatic or enolic hydroxyl compounds or (4) with mercaptans. In German.

PB L 45638. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for shaping high polymers, especially polymers of acrylonitrile. (Patent application I 72617 IVc/29b) (Enlargement Print of Frames 4539-4540 of FIAT Microfilm Reel 145, PB 19921) Jul 1942. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00.
By use of cyclic carbonates of polyvalent aliphatic alcohols or polyvalent phenols as solvents or plasticizers, high polymers, especially polymers of acrylonitrile, can be easily molded. The cyclic carbonates can also be used in mixture with other suitable solvents and plasticizers. In German.

PB L 45641. I. G. FARBENINDUSTRIE A. G.. Device for manufacture of stretchable fiber band from bands of synthetic fiber. (Patent application I 73348 VII/76b. Addition to German patent application I 59065 and I 61884, both VII/76b) (Enlargement Print of Frames 4541-4542 of FIAT Microfilm Reel 145, PB 19921) n. d. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00.
This application describes a drawing-off device which takes the form of a drum with attachments. In German.

PB L 45639. I. G. FARBENINDUSTRIE A. G. Device for manufacture of stretchable fibe- band from bands of synthetic fiber. (Patent application I 73407 VII/76b. Third addition to German patent application I 59065 and I 61884, both VII/76b) (Enlargement Print of Frames 4543-4544 of FIAT Microfilm Reel 145, PB 19921) Oct 1942. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00.
As drawing-off device, a roller provided with pins is used the pins of which pass through the holes of a leather conveyor on which by synchronization with another conveyor, arranged above the first one, the cut threads are conveyed. In German.

PB L 45642. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process and device for recovery and purification of carbon

disulfide. (Patent application I 73293 IVb/121) (Enlargement Print of Frames 4545-4556 of FIAT Microfilm Reel 145, PB 19921) Oct 1942. 12 p. Price: Microfilm-$1.00 - Photostat-$1.00.
The object is to recover and purify carbon disulfide which escapes from freshly precipitated viscose upon washing with hot water. The principle is the collection of the vapors in an air-tight space and their liquefaction in a condenser. The condensed carbon disulfide is separated from sulfur, steam and the accompanying vapors in an explosion-proof space. Subsequently it is purified by treatment with sodium lye and water. By means of this process it is possible to save 30 percent of the carbon disulfide used for the production of viscose. In German.

PB L 45643. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Lighting system for printing apparatus. (Patent application I 73484 IXa/57c) (Enlargement Print of Frames 4557-4563 of FIAT Microfilm Reel 145, PB 19921) Nov 1942. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00.
The object is a satisfactory uniform illumination of the printing surface with diffuse light, which may be weakened or colored as desired. The rays of a light source are collected through a condenser into a parallel beam, which serves for the illumination of a diffusing screen, from where the light falls on the printing surface. Any light balancing devices, such as diaphragms or color filters, may be interposed between light source and diffusing screen without interfering with the uniformity of the illumination of the printing surface. In German.

PB L 45644. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for making half-tone reproductions from black-white and/or colored patterns. (Patent application I 73584 IVa/57d) (Enlargement Print of Frames 4564-4566 of FIAT Microfilm Reel 145, PB 19921) Nov 1942. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
For such photography photographic material is used as possesses a gradual rise in the blackening of the highlights and a steep rise in the recording of the shadows. In German.

PB L 45645. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for improving surfaces by applying solid substances through evaporation. (Patent application I 73574 VIb/32b) (Enlargement Print of Frames 4567-4568 of FIAT Microfilm Reel 145, PB 19921) Nov 1942. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00.
From the powdery material serving for the coating a preliminary form is made. For this purpose the powder is mixed with water to form a viscous pulp; this is placed into molds and subsequently dried and vitrified. The resulting forms are used for complete evaporation. Such processes are followed in the production of reflection-reducing layers on glass plates or lenses. In German.

PB L 45646. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Multilayer negative or reversible material for substantive color photography with overlapping sensitization for the single layers. (Patent application I 73639 IVa/57b) (Enlargement Print of Frames 4569-4571 of FIAT Microfilm Reel 145, PB 19921) Nov 1942. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
For the preparation of such material stabilization of the overlapping is achieved by the following procedure. The emulsion layers are additionally sensitized in the areas where the maximum of sensitization lies. The red sensitive layer is additionally sensitized for yellow, the green sensitive layer for yellow and blue green, and the blue sensitive layer for blue green. In German.

PB L 45650. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for applying protein layers such as gelatin, particularly of the photographic type. (Patent application I 73666 IVa/57b) (Enlargement Print of Frames 4572-4575 of FIAT Microfilm Reel 145, PB 19921) Nov 1942. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00.
To the solutions for the pouring process are added, besides the usual photographic admixtures, additional substances of the general formula

$$R_1 \cdot CH \cdot COOR_3 \quad R_1 \cdot C \cdot COOR_3 \quad R_1 \cdot CH \cdot OOCR_3$$
$$\quad | \qquad\qquad \| \qquad\qquad \quad | \qquad \text{or}$$
$$R_2 \cdot CH \cdot R_4 \quad R_2 \cdot C \cdot R_4 \quad R_2 \cdot CH \cdot R_4$$

$$R_1 \cdot C \cdot OOCR_3$$
$$\|$$
$$R_2 \cdot C \cdot R_4$$

$R_1$ to $R_4$ can represent radicals at least one of which contains a carbon chain of 6 to 14 atoms while the others may be any radical. In German.

PB L 45647. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for preparing fixing baths for color photographs that have undergone chromogenic development. (Patent application I 73688 IVa/57b) (Enlargement Print of Frames 4576-4578 of FIAT Microfilm Reel 145, PB 19921) Nov 1942. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
The troublesome separation of sulfur-containing silver compounds in fixing baths for color photographs may be prevented by the addition of small amounts of water-soluble aliphatic or aromatic sulfinic acids. The pH value of the sulfinic acid must be between 5 and 7. If the fixing bath contains alum, sodium acetate or similar chemicals should be added in order to avoid separation of aluminum hydroxide. In German.

PB L 45648. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Preparation of hydrophilic polyurethans. (Patent application I 73515 IVc/12o) (Enlargement Print of Frames 4579-4586 of FIAT Microfilm Reel 145, PB 19921) Nov 1942. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Hydrophilic polyurethans from chloride esters of glycol-bis-carbonic acid and compounds with two hydrogen-containing basic nitrogen atoms are obtained by using at least in part amine compounds with tertiary basic nitrogen in the molecule. The final product should have such a content of tertiary basic nitrogen that it still dissolves in hot diluted acetic acid but not, or only incompletely in the cold acid. In German.

PB L 45649. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Worm press for shaping of high polymers. (Patent application I 73521 XII/39a) (Enlargement Print of Frames 4587-4591 of FIAT Microfilm Reel 145, PB 19921) Nov 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00.
The object is a worm press for the forming of thermoplastic high polymers which is so constructed that the press mass is retained in the hottest zone of the pressure head only for a very short time. This worm press is characterized by the following features. The injection head is composed of a filter, a nozzle plate with perforations, and a heater surrounding the injection head. In German.

PB L 45650. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for reduction of light reflection from glass surfaces. (Patent application I 73575 VIb/32b) (Enlargement Print of Frames 4592-4594 of FIAT Microfilm Reel 145, PB 19921) Nov 1942. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
The surface of the glass may be given an effective coating by applying a mixture of lithium fluoride and aluminum fluoride by evaporation. The two chemicals are fused together and the fusion is dried to form a powder. After the glass has been coated, it is subjected to prolonged heat treatment whereby the coating is made hard and resistant. In German.

PB L 45651. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for preparation of polyamides. (Patent application I 73585 IVc/39c) (Enlargement Print of Frames 4595-4604 of FIAT Microfilm Reel 145, PB 19921) Nov 1942. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Polyamides are prepared by condensation of polyamide-forming di- or polyfunctional ester compounds of carboxylic acid

and/or amino compounds, in which the acid carbonyl groups are at least in part linked to mercaptans. The mixtures of reaction must contain components with tertiary basic nitrogen. Lactams are copolymerized. In German.

PB L 45652. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for curling threads and fibers from polyurethane. (Patent application I 73614 IVe/29b) (Enlargement Print of Frames 4606-4607 of FIAT Microfilm Reel 145, PB 19921) Nov 1942. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Polyurethan threads and fibers can be curled and at the same time delustered by treating them with acids and acid chlorides. If necessary, the acids and acid chlorides can be removed from the fibers by washing. In German.

PB L 45653. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for preparation of polysulfonamides. (Patent application I 73621 IVc/39c) (Enlargement Print of Frames 4608-4615 of FIAT Microfilm Reel 145, PB 19921) Nov 1942. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Amino compounds with two hydrogen-containing amino groups are reacted with disulfonyl chlorides, preferably $\omega,\omega'$-disulfonyl chlorides, in amides or sulfones as solvents and amine is used as the substance which combines with acids. Large amounts of sulfonyl chlorides are used; at the end of the reaction the excess sulfonyl chloride groups are thermally decomposed into alkyl halide groups. In German.

PB L 45654. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Continuous printing machine for color films. (Patent application I 73306 IXa/57a) (Enlargement Print of Frames 4616-4621 of FIAT Microfilm Reel 145, PB 19921) Oct 1942. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00.
The source of light is arranged inside of the cylinder carrying the filter. The cylinder conveying the film is concentric to the filter-cylinder and is provided with dents. A third cylinder is concentric between the source of light and the filter-cylinder and carries the diaphragm. Glass lenses are arranged in the circumference of the filter-cylinder. In German.

PB L 45656. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Automatic device for the treatment of photographic materials. (Patent application I 73375 IXa/57a) (Enlargement Print of Frames 4622-4625 of FIAT Microfilm Reel 145, PB 19921) Oct 1942. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Two pairs of endless chains convey the photographic material which may be in the form of ribbons or sheets. One pair of the chains receives the material after exposure and delivers it to the second pair of chains which conveys it through the various baths. An adjusting cylinder is arranged within the path of the first pair of chains to bridge the time of exposure which interrupts the continuous course of the conveying system. In German.

PB L 45657. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for continuous polymerization of lactams. (Patent application I 73659 IVe/39c) (Enlargement Print of Frames 4626-4630 of FIAT Microfilm Reel 145, PB 19921) Nov 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00.
With the help of a diagram a device is described by means of which lactams with more than six members are continuously polymerized by addition of water-separating accelerators, such as linear polyamide-forming aminocarboxylic acids and/or salts of diaminodicarboxylic acids. With stirring, the polyamide-forming starting material is melted and continuously introduced into a vessel shaped as a heating tube through which it passes in 10-60 minutes. In German.

PB L 45658. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for finishing fibers and fiber products. (Patent application I 73677 IVd/8k) (Enlargement Print of Frames 4631-4640 of FIAT Microfilm Reel 145, PB 19921) Nov 1942. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Polyamide-, Polyurethane-, and polyurea-fibers and fiber products can be improved by treatment with hot aqueous solutions of carboxylic acids which dissolve only slightly or with difficulty at room temperature. Weak bases should be present which are not strong enough to neutralize the acids. The aqueous baths can also contain dyes, dye-components or dyestuff-derivatives with acid groups, and tannin or similar phenolic polyhydroxyl compounds of high molecular weight. In German.

PB L 45659. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for preparation of nitric acid and nitrating acid free from nitric oxide. (Patent application I 73738 IVb/121) (Enlargement Print of Frames 4641-4644 of FIAT Microfilm Reel 145, PB 19921) Nov 1942. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Fuming nitric acid and nitrating acid can be completely freed from nitric oxide by adding to them such amounts of alkali permanganates or permanganates of the alkaline earth metals which will completely oxidize the nitric oxide to nitric acid. Manganese present in the nitric acid is precipitated by addition of concentrated sulfuric acid. In German.

PB L 45660. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for prevention of colored halos in color developing of multilayer material for color photography which contain silver filter layers. (Patent application I 73754 IVa/54b) (Enlargement Print of Frames 4645-4648 of FIAT Microfilm Reel 145, PB 19921) Dec 1942. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00.
To the layers reduction agents are added. These reduction agents are formed by condensation or polycondensation of aromatic dihydroxy compounds having the OH groups in ortho-, para- or peri-position with phenols or terpenes. The aromatic dihydroxy compounds, the phenols and the terpenes can be substitution products and the dihydroxy compounds can contain methylol groups. In German.

PB L 45661. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for preparation of molded bodies. (Patent application I 73736 IVc/39b) (Enlargement Print of Frames 4649-4652 of FIAT Microfilm Reel 145, PB 19921) Dec 1942. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Molded bodies, especially coatings, films or hollow bodies shaped by dipping, are prepared from pastes of polymeric substances finely dispersed in a mixture of liquids. This mixture, which must not dissolve the polymer up to temperatures of 60°C., must consist of two or more components. At least one of these components must be a solvent for the polymer and one a non-solvent which boils at a lower temperature than the solvent or the solvent mixture and must be miscible with it in any ratio. In German.

PB L 45662. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for preventing linear high polymers with amide groups in the chain from becoming brittle. (Patent application I 73767 IVc/39b) (Enlargement Print of Frames 4653-4656 of FIAT Microfilm Reel 145, PB 19921) Dec 1942. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Polyamides, polyurethans, or polyurea will not become brittle under the influence of heat or light if small amounts of N-aryl substituted secondary aromatic di- or polyamines are added to them during or after their preparation or molding. In German.

PB L 45663. DEUTSCHE CELLULOID-FABRIK, EILENBURG, GERMANY. Process for preparation of plastic materials from cellulose esters. (Patent application D. 89428 IVc/39b) (Enlargement Print of Frames 4657-4659 of FIAT Microfilm Reel 145, PB 19921) Dec 1942. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Cellulose esters (especially acetone-soluble cellulose acetate) are cold-plasticized in alcohols (especially ethyl-alcohol) with a solution of doubly substituted cyanamides the substituents of which are aryl- or hydroaryl-groups. In German.

PB L 45664. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for preparing ω-aminocarboxylic acids. (Patent application I 73809 IVc/12qu) (Enlargement Print of Frames 4660-4662 of FIAT Microfilm Reel 145, PB 19921) Dec 1942. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
ω-Aminocarboxylic acids can be obtained from cyclic lactams which are decomposed with an organic acid that forms an insoluble calcium salt. The acid is then separated as the calcium salt. In German.

PB L 45665. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for finishing fibrous materials weighted with polyphenols, especially tannin and tannin-like substances. (Patent application I 73889 IVd/8k) (Enlargement Print of Frames 4663-4668 of FIAT Microfilm Reel 145, PB 19921) Dec 1942. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00.
These fibrous materials made of synthetic polyamides are treated with polyvalent alkylating agents (especially alkylene-oxides, -imines, - imides, halogens methyl ethers, and halogen methyl amides), with salt-like compounds which on heating easily dissociate with formation of alkylating agents, or with aliphatic diazo-compounds at proper temperatures. Another heat treatment may be necessary. In German. For other applications on finishing of polyamides, see I 72756 (PB 45599) and I 72767 (PB 45600), abstracted on p. 347, v. 4.

PB L 45666. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Cylindrical roll with internal heating. (Patent application I 73629 VII/8b) (Enlargement Print of Frames 4669-4672 of FIAT Microfilm Reel 145, PB 19921) Nov 1942. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Within a cylindrical roll a stationary ring-shaped heating body is arranged in such a manner that the cylinder rotates around the heater. The heat is transferred by a heat exchange fluid or oil. The gap between the heater and cylinder is adjusted to the viscosity of the oil. Such rollers are used in the manufacture of textiles or paper. In German.

PB L 45667. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process and device for wet treatment of moisture-penetrable structures wound on spools. (Patent application I 73676 VII/8a) (Enlargement Print of Frames 4673-4677 of FIAT Microfilm Reel 145, PB 19921) Nov 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Plastic threads and fibers or other aggregates permeable to liquids and wound on spools are wet treated by using the pressure of the treating liquid to close and to press together the spool columns during this treatment. By stopping the inflow of the treating liquid, the spools are released. In German.

PB L 45668. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for dyeing structures made of polyvinyl chloride. (Patent application I 73979 IVd/8m) (Enlargement Print of Frames 4678-4679 of FIAT Microfilm Reel 145, PB 19921) Dec 1942. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Threads, fabrics, ribbons and films of polyvinyl chloride are dyed by wetting them first with alkaline solutions of hydroxy alkyl celluloses or their ethers, such as the Tyloses. Then the wet aggregates are treated with solutions of acids or salts so as to precipitate a layer of the free hydroxyalkyl celluloses. Eventually they are dyed with cotton or rayon dyes. In German.

PB L 45669. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Preparation of dialysis membranes. (Patent application I 74009 IVb/12d. Addition to application I 66961 IVb/12d) (Enlargement Print of Frames 4680-4682 of FIAT Microfilm Reel 145, PB 19921) Dec 1942. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Dialysis membranes for alkaline liquids are made of fabrics, felts, and paper-like sheets of high polymer hydrocarbons. The semipermeable membrane consists of precipitates of inorganic salts, oxides or hydroxides and is bonded to the high polymer hydrocarbons by means of hydroxyalkyl ethers of cellulose such as the Tyloses. For application I 66961, see PB 34571, p. 365, v. 3, this Bibliography. In German.

PB L 45670. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Device for short time measurements. (Patent application I 70069 VIIIb/85b) (Enlargement Print of Frames 4683-4689 of FIAT Microfilm Reel 145, PB 19921) Jul 1942. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Synchronous clocks are fed by an alternating current generator driven by a motor energized by a constant frequency system. The oscillations of a tuning fork, after amplification by a vacuum tube amplifier, are used for synchronizing a synchronous motor. This synchronous motor is coupled to the motor driving the generator. The a-c voltage of the synchronous motor serves as the source for the anode potential for the final stage of the amplifier. In German.

PB L 45671. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Preparation of basic heterocyclic glycols. (Patent application I 73925 IVd/12p) (Enlargement Print of Frames 4690-4692 of FIAT Microfilm Reel 145, PB 19921) Dec 1942. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Compounds of the general formula HO-R'-NH-R-NH-R'-OH are reacted with aldehydes. In this formula R stands for a bivalent, if necessary substituted, hydrocarbon group with two (in an aliphatic chain even with three) carbon atoms between the two nitrogen atoms; $R^1$ stands for bivalent hydrocarbon groups with at least two C-atoms, which at the distance of at least two C-atoms from the basic N can be interrupted by heteroatoms or groups such as O, S, -NHCO-, and $-NHSO_2-$. In German.

PB L 45672. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Preparation of polyurethan compounds. (Patent application I 73924 IVc/39c) (Enlargement Print of Frames 4693-4695 of FIAT Microfilm Reel 145, PB 19921) Dec 1942. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
In the presence of tertiary amines carbon oxysulfide is reacted with aminoalcohols or diamines. If diamines are used, there has also to be added the equivalent amount of a diprimary glycol. The whole is heated until all the hydrogen sulfide is separated. In German.

PB L 45673. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for shaping synthetic linear high polymers. (Patent application I 73926 IVd/29b) (Enlargement Print of Frames 4696-4701 of FIAT Microfilm Reel 145, PB 19921) Dec 1942. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00.
High polymers with amide groups in the chain such as polyamides, polyurethans or polyureas, are shaped by being pressed together. Then, intermittently, and in the molten state, they are conveyed to a collecting receptacle from where the melt is withdrawn continuously for molding or shaping. A drawing is attached which shows such a receptacle. In German.

PB L 45674. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Preparation of condensation polymers. (Patent application I 73946 IVc/39c) (Enlargement Print of Frames 4702-4710 of FIAT Microfilm 145, PB 19921) Dec 1942. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Amino- and/or hydroxy- or mercaptocarboxylic acids, or their functional derivatives (esters, amides, lactams, lactones, and nitriles), which are capable of forming polycondensation products, are reacted with comparatively small amounts of resin-like polycarboxylic acids (especially polyvinyl carboxylic acids) at increased temperatures. The reaction can also be performed with such functional derivatives of these carboxylic acids as alone or in the presence of water are capable of forming amides or esters with the above bifunctional acids or their functional derivatives. In German.

PB L 45675. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for the sensitization of layers containing light-sensitive diazonium compounds. (Patent application I 73958 IVa/57b) (Enlargement Print of Frames 4711-4713 of FIAT Microfilm Reel 145, PB 19921) Dec 1942. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.

Dyes of the thio- and seleno-pyronine series are added to the emulsion layers. Moreover, thiosinamine or similar compounds are added which accelerate the bleaching of dyes in light. In German.

PB L 45676. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for the subsequent treatment of threads from linear high polymers. (Patent application I 74032 IVc/29b) (Enlargement Print of Frames 4714-4716 of FIAT Microfilm Reel 145, PB 19921) Jan 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
From threads of polyamides the parts consisting of low polymers which are soluble in water with difficulty are removed by treating the threads with hot water and then centrifuging. In German.

PB L 45677. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for the manufacture of light filters. (Patent application I 74118 IVa/57b) (Enlargement Print of Frames 4717-4721 of FIAT Microfilm Reel 145, PB 19921) Jan 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Symmetrical or unsymmetrical carbocyanine dyes are used which are derived from such heterocyclic ring compounds as do not contain a carbon double bond. Frame 4718 is lacking. In German.

PB L 45678. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for the production of photographic positives by the reflex copying process. (Patent application I 74117 IVa/54b. Addition to application I 68718 IVa/57b) (Enlargement Print of Frames 4722-4725 of FIAT Microfilm Reel 145, PB 19921) Jan 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00.
To the positive gelatine layer a delusterant is added which is subsequently removed by the usual baths or by special bath treatment. The developing agent is added to the negative layer and the development done by alkali. For application I 68718 IVa/57b, see PB 34150, abstracted on p. 822, v.3, this Bibliography. In German.

PB L 45679. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for framing transparencies. (Patent application I 74170 IIa/42h) (Enlargement Print of Frames 4726-4727 of FIAT Microfilm Reel 145, PB 19921) Jan 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00.
A process is claimed for framing transparencies in frames of materials which have low mechanical resistance such as cardboard or thin metal sheets. The films and frames are covered with a laequer, thus causing the film to shrink. The frame is stretched tightly while coating is applied and is kept tightly stretched until it is completely dried. In German.

PB L 45680. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for preventing linear high polymers with amide groups in the chain from becoming brittle. (Patent application I 74045 IVc/39b) (Enlargement Print of Frames 4728-4732 of FIAT Microfilm Reel 145, PB 19921) Jan 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Addition of small amounts of very finely dispersed copper or inorganic or organic copper compounds to the polymers before, during, or after molding will stabilize them, that is, protect them against the harmful influences of heat, light and weather. Such polymers are those of the polyamides, polyurethans and polyureas. In German.

PB L 45681. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Optical system for sound tracks. (Patent application I 74090 IIa/42g) (Enlargement Print of Frames 4733-4736 of FIAT Microfilm Reel 145, PB 19921) Jan 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00.
While some types of sound film contain the sound tracks in a gelatine layer on top of the film proper, others contain it in the film itself. Thus the distance between sound track and optical system differs, thus causing distortions of the sound. A device is described which allows, by the movement of a lever, the establishment of the correct distance for one or the other kind of film, hereby permitting either kind to be used. This is explained by means of a drawing. In German.

PB L 45682. DEUTSCHE CELLULOID-FABRIK, EILENBURG, GERMANY. Process for shaping the surface of layers formed by aqueous solvent-free emulsions of high-polymeric substances. (Patent application D 89891 IVc/39b) (Enlargement Print of Frames 4737-4741 of FIAT Microfilm Reel 145, PB 19921) Jan 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00.
The emulsion is applied to any support. While the emulsion is wet it is covered with a sheet of plastic having the desired shape. This is left to dry while covered with the mold. Subsequently the mold is removed. Emulsion polymers of the vinyl group are especially mentioned. In German.

PB L 45683. I. G. FARBENINDUSTRIE A G., WOLFEN, GERMANY. Preparation of 1,3-substituted thiohydantoins. (Patent application I 74242 IVc/12p) (Enlargement Print of Frames 4742-4747 of FIAT Microfilm Reel 145, PB 19921) Feb 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00.
N-mono-substituted amino acetamides, or their compounds with acids, are first condensed with substituted mustard oils in a neutral or alkalin medium. Then the acid amide group is hydrolyzed in an acid medium. In German.

PB L 45684. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for finishing fibers and flat shapes from synthetic linear high polymers with amide groups in the chain. (Patent application I 74282 IVd/8k) (Enlargement Print of Frames 4748-4759 of FIAT Microfilm Reel 145, PB 19921) Feb 1943. 12 p. Price: Microfilm-$1.00 - Photostat-$1.00.
The products are treated with solutions or dispersions of aromatic di- or polyhydroxysulfones which are free from sulfonic acid groups and have a melting point over 150° C. If necessary, they must be treated with dry heat or dry steam. The solutions should contain bases which evaporate during the treatment. The subsequent finishing is done with polyvalent alkylating agents. In German.

PB L 45685. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for manufacturing curled threads, fibers, or ribbons from cellulose. (Patent application I 74370 IVc/29b. Addition to application I 66132 IVc/29b) (Enlargement Print of Frames 4760-4762 of FIAT Microfilm Reel 145, PB 19921) Feb 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Viscose is worked with a solution containing 6.5% alkali. If the spinning solution contains more than 6.5% alkali; the content of sulfuric acid of the bath is increased; if the content is less than 6.5% alkali; the content of sulfuric acid is also decreased. The highest concentration of sulfuric acid permissible is about 17% and the lowest concentration is about 4%. For application I 66132, see PB 31625, abstracted on p.220, v.3, this Bibliography. In German.

PB L 45686. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for registration of color processes. (Patent application I 74397 IVa/57b) (Enlargement Print of Frames 4763-4767 of FIAT Microfilm Reel 145, PB 19921) Feb 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00.
The method uses a negative process for approximate recordings of colors of light sources, etc. Dyes are used which have maximum of transparency corresponding to the maximum of sensitization of the particular layer of the photographic emulsion. In German.

PB L 45687. DEUTSCHE CELLULOID-FABRIK A. G., EILENBURG, GERMANY. Preparation of solutions, pastes or plastic material from recovered cellulose acetate. (Patent application D 90089 IVc/22h) (Enlargement Print of Frames 4768-4770 of FIAT Microfilm Reel 145, PB 19921) Feb 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Mixtures of aliphatic or hydroaromatic alcohols and of partly or completely hydrogenated pyran compounds, containing the cyano-group as substituents, are used as solvent in the preparation of the above-mentioned materials. In German.

PB L 43906. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Preparation of multicolored pictures or of multicolored pictures from subtractive images. (Patent application I 74450 IVa/57b) (Enlargement Print of Frames 4771-4775 of FIAT Microfilm Reel 145, PB 19921) Mar 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00.
These are made by selective twofold exposure. One or more filter layers with diffusion-proof, ultraviolet light-absorbent substances are used and the second exposure or the second exposures are made from one side only with ultraviolet light. The diffusion-proof and ultraviolet light absorbent-substances must be stable against the influence of non-fixing silver solvents, especially against biohromate-sulfuric acid. In German.

PB L 45688. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process and device for plugging and opening storage and processing containers and conveyors. (Patent application I 74470 XII/39a) (Enlargement Print of Frames 4776-4779 of FIAT Microfilm Reel 145, PB 19921) Mar 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00.
The invention concerns liquefiable synthetic materials such as polyamides. It is stated that the parts through which these substances pass in liquid form may be easily blocked by forming a plug by local cooling. Application of heat at the same spot will dissolve the plug and permit free flow. Several possible realizations of this principle are described and shown in 5 drawings. In German.

PB L 45689. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for preparing $\varepsilon$-caprolactam. (Patent application I 74471 IVc/12g) (Enlargement Print of Frames 4780-4782 of FIAT Microfilm Reel 145, PB 19921) Mar 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
$\varepsilon$-Caprolactam and its C-substituted derivatives are obtained if amides of $\varepsilon$-amino carboxylic acids, or of their lower acyl derivatives, are heated to decomposition temperature in the presence of alkaline substances and preferably under reduced pressure. If necessary, solvents and diluents have to be present. The lactams thus formed are distilled off. In German.

PB L 45690. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Preparation of colored wash-off relief pictures. (Patent application I 74520 IVa/57b) (Enlargement Print of Frames 4783-4785 of FIAT Microfilm Reel 145, PB 19921) Mar 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
The colors of the relief are built up from their components during the usual steps of preparation. In German.

PB L 45691. DEUTSCHE CELLULOID-FABRIK A. G., EILENBURG, GERMANY. Process for storage and shipment of sheets made from polyisoolefins or having surfaces formed therewith. (Patent application D 90255 IVc/39b) (Enlargement Print of Frames 4786-4788 of FIAT Microfilm Reel 145, PB 19921) Mar 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Surfaces of polyisoolefins (such as polyisobutylene) are covered with a layer of hydrophilic polymers, such as sheets of cellulose hydrate, polyamides, polyvinyl alcohols, and polyvinyl acetals with free OH groups. In German.

PB L 45692. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for preparing blue-black picture tones, insensitive against contamination by fixing solutions, on silver chloride papers. (Patent application I 74543 IVa/57b) (Enlargement Print of Frames 4789-4791 of FIAT Microfilm Reel 145, PB 19921) Mar 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Thio ketones represented by the structure —N—C(=S)— wherein R stands for hydrogen, alkyl groups, aryl groups or aralkyl groups, form easily-soluble complex compounds with silver halides and keep their toning properties even under unfavorable working conditions. Frame 4792, containing the patent claim, is missing. In German.

PB L 45693. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Method for swell-proofing of cellulose hydrate fibers. (Patent application I 74607 IVd/8k) (Enlargement Print of Frames 4793-4798 of FIAT Microfilm Reel 145, PB 19921) Mar 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00.
The method, a modification of known methods, consists of impregnation of the fibers with a solution containing formaldehyde, enough nitric acid for a pH of 2.5 - 1.1, and optionally ammonium nitrate as a catalyst; then the fibers are dried and heated over 70°C. In German.

PB L 45694. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Preparation of monochromatically tinted prints and transparencies. (Patent application I 74610 IVa/57b) (Enlargement Print of Frames 4799-4801 of FIAT Microfilm Reel 145, PB 19921) Mar 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
This process was performed by the use of a multilayer printing material. Each layer was sensitized differently and each contained different dye constituents. The prints were exposed with properly chosen light filters. This procedure plus the coloring substance permitted the production of monochromatic pictures. In German.

PB L 45695. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Preparation of artificial hair, bristles, threads, etc., from polyamides. (Patent application I 74611 IVe 29b) (Enlargement Print of Frames 4802-4804 of FIAT Microfilm Reel 145, PB 19921) Mar 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00.
The quality of these polyamide objects could be greatly improved if they were immediately subjected to a stretching process after leaving the spinning machine. This process enabled the production of threads with a 50% higher degree of stiffness. The elasticity and gloss are also greatly improved. In German.

PB L 45696. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for improving the electrical conductivity of synthetic bristles from synthetic high polymeric substances. (Patent application I 74071 IVc/39b) (Enlargement Print of Frames 4805-4808 of FIAT Microfilm Reel 145, PB 19921) Jan 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00.
The conductivity of such plastic bristles as polyamides, polyurethans, polyureas, polyvinyl chlorides, polyethylenes, etc., could be assured by the use of heavy metals or heavy metal compounds. The incorporation of the metals or metal compounds into the surface of the plastic bristle is attained by the use of swelling agents, such as formamide, acetic acid, acetone, tetrahydrofuran, and highly concentrated solutions of alkaline or alkaline earth thiocyanides. In German.

PB L 45697. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Process for finishing fibers made from linear high polymers with amide groups in the chain. (Patent application I 74355 IVd/8k) (Enlargement Print of Frames 4809-4810 of FIAT Microfilm Reel 145, PB 19921) Feb 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00.
The fibers were treated with such solutions as would yield on evaporation a hard, solid flexible film. The solutions most suitable for this treatment were those of polyvinyl alcohols. In German.

PB L 45698. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Lighting system for printing or enlarging apparatus for production of colored prints. (Patent application I 74544 IXa/57b) (Enlargement Print of Frames 4811-4815 of FIAT Microfilm Reel 145, PB 19921) Mar 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00.
The coloring of the light is achieved by the use of movable filters. These are located next to the diaphragm of the condenser and are symmetrical and contain the three basic colors. The filters are in such a position that only a part of the beam is colored. For prior application, see PB 45643. In German.

PB L 45699. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Preparation of a duplicate negative from a multilayer color negative or multilayer color positive produced by means of a color developed and overlappingly sensitized negative material. (Patent application I 74666 IVa/57b) (Enlargement Print of Frames 4816-4819 of FIAT Microfilm Reel 145, PB 19921) Mar 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00.
This application explains a procedure in which multilayer complimentary colored negatives or color corrected positives are employed. Two graphs indicating the absorption curves of the maximums are included. In German.

PB L 45700. I. G. FARBENINDUSTRIE A. G., WOLFEN, GERMANY. Preparation of colored photographic prints and transparencies with the aid of derivatives of ω-cyanoacetophenone as color coupling components. (Patent application I 74691 IVa/57b) (Enlargement Print of Frames 4820-4829 of FIAT Microfilm Reel 145, PB 19921) Mar 1943. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00.
Color forming agents of the following general formula were used: R-X-$COCH_2CN$. R represents any substituted aromatic group. X represents an aliphatic carbon chain of at least 2 C-atoms containing double or triple bonds and which can be aliphatically or aromatically substituted. In German.

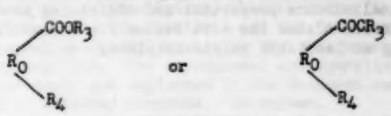
PB L 45701. I.G. FARBENINDUSTRIE A.G. Preparation of solutions of linear polymers with amide groups in the chain. (Patent application I 74740 IVc/39b) (Enlargement Print of Frames 4830-4843 of FIAT Microfilm Reel 145, PB 19921) Apr 1943. 14 p. Price: Microfilm $1.00 - Photostat-$1.00
Valuable new hydroxymethyls. yielding stable solutions in comparatively diluted alcohol-water mixtures (especially mixtures of methanol and water) are obtained by the use of polyamides or mixed polyamides, containing tetramethylene diamine and its side chain homologues completely or in part as basic components, preferably together with comparatively short chained dicarboxylic acids, such as adipic acid or its homologues. (Waste products from bristle production are mostly used as raw material). The resulting compounds are capable of forming fibers, ribbons and films. 24 examples are given. This document is incomplete.
In German.

PB L 45702. I.G. FARBENINDUSTRIE A.G. Process and device for finishing artificial threads from synthetic linear high polymers. (Patent application I 74838 VII/29a) (Enlargement Print of Frames 4844-4847 of FIAT Microfilm Reel 145, PB 19221) Apr 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
The fibers are stretched over a roller and over a brake rod. The roller moves around an axle mounted on springs. One drawing of the machine is included. In German.

PB L 45703. I.G. FARBENINDUSTRIE A.G. Preparation of polycarbamic acid compounds. (Patent application I 74772 IVc/39c) (Enlargement Print of Frames 4848-4859 of FIAT Microfilm Reel 145, PB 19921) Apr 1943. 12 p. Price: Microfilm-$1.00 - Photostat-$1.00
This patent describes the reactions producing polycarbamic acid compounds, such as polyurethans, polyureas and mixed polymers with reactive side chains from diisocyanates or from substances giving analogous reactions, i.e. diazides or isothiocyanates. It contains especially descriptions of reactions with such glycols, aminoglycols or diamines having cyclic or linear acetal or mercaptal groups in the side chain. Four examples with detailed formulas are given.
In German.

PB L 45704. I.G. FARBENINDUSTRIE A.G. Preparation of substituted polyurethans from diisocyanates. (Patent application I 74779 IVc/39c) (Enlargement Print of Frames 4860-4868 of FIAT Microfilm Reel 145, PB 19921) Apr 1943. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
This patent describes the production of substituted polyurethans from diisocyanates or from substances giving analogous reactions, i.e. dicarboxylic acid azides, dicarbamic acid arylesters. Very reactive starting materials to build up polyurethans are those diisocyanates and glycoles containing halogen or sulfonic acidester groups bound to a saturated carbon atom, or to an unsaturated carbon atom in alpha-position to a double bond. 25 reactive substances are listed. 3 examples are given.
In German.

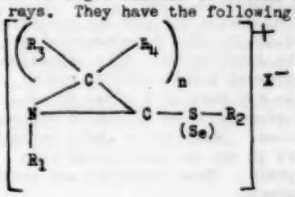
PB L 45705. I.G. FARBENINDUSTRIE A.G. Preparation of photographic light-sensitive or neutral material. (Patent application I 74782 IV/57b) (Enlargement Print of Frames 4869-4872 of FIAT Microfilm Reel 145, PB 19921) Apr 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
Wetting agents, easing the casting process, are added to photographic emulsions. In former patents wetting agents containing condensation products of succinic anhydrides had been used for this purpose. This patent describes the use of compounds of the following general structure:



$R_3$ as well as $R_4$ represent any radical of which one, i.e. $R_3$ may have a carbon chain of 6 to 18 carbon atoms, while $R_4$ may be any radical, especially a carbonyl group (-COO Me) or hydrogen, hydroxyl, halogen metal or equivalents. $R_0$ represents a carbon chain of optional length and may have any kind of side chains. $R_0$ may also be absent. In this case the two groups $COOR_3$ and $COOR_3$ respectively may be linked together. 3 examples are given. In German.

PB L 45706. I.G. FARBENINDUSTRIE A.G. Preparation of photographic light-sensitive or neutral material. (Patent application I 74781 IVa/57b) (Enlargement Print of Frames 4873-4876 of FIAT Microfilm 145, PB 19921) Apr 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
Wetting agents, easing the casting process are added to photographic emulsions. The substances used as wetting agents have a carbon chain of at least 8 carbon atoms and are insoluble or difficultly soluble in water. The use of these insoluble compounds as wetting agents in emulsions either for photographic or other purposes (i.e. as textile aids) is claimed to be basically new. 3 examples are given. In German.

PB L 45707. I.G. FARBENINDUSTRIE A.G. Preparation of methine dyes. (Patent application I 74819 IVd/22e) (Enlargement Print of Frames 4877-4882 of FIAT Microfilm Reel 145, PB 19921) Apr 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
This patent describes methine dyes used in photographic emulsions as light-filters to absorb especially ultra violet rays. They have the following general formula:



In the above formula n represents 3 to 6; $R_1$ and $R_2$ represent alkyl, aralkyl, aryl, acyl, or acyl ester; $R_3$ and $R_4$ represent H, alkyl, aralkyl and aryl, or heterocyclic compounds without N-atom such as furyl or thionyl groups. $R_1$ and $R_3$ may be linked. X may be any acid radical such as halogen, $SO_4H$, $C_2H_5SO_4H$, toluene sulfonic acid, $ClO_4$, $NO_3$, SCN or zinc chloride complex salt. These compounds are reacted with substances containing reactive methyl or methylen groups. The reaction takes place in a neutral or slightly alkaline medium, if necessary with the addition of organic or inorganic bases. Five examples are given. In German.

PB L 45708. I.G. FARBENINDUSTRIE A.G. Process for molding polyacrylonitrile compounds. (Patent application

I 73203 IVc/39b) (Enlargement Print of Frames 4883-4892 of FIAT Microfilm Reel 145, PB 19921) Sep 1942. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00
Polyacrylonitrile compounds and their mixed vinyl copolymers may be molded by conventional methods if they are treated with liquid or low melting sulfones before or during the process of molding. Sulfones with a low melting point or highly water soluble sulfones are most suitable, as they may be easily removed after the process if necessary. Thirteen examples and one diagram are given. In German.

PB L 45709. DEUTSCHE CELLULOID-FABRIK A.G., EILENBURG, GERMANY. Process for combining polyisobutylene sheets. (In addition to D 88408 IVc/39b) (Patent application D 90429 IVc/39b) (Enlargement Print of Frames 4893-4894 of FIAT Microfilm Reel 145, PB 19921) Apr 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
The main application described the joining of film foils of pure polyisobutylene on parts of their surfaces having the original surface properties and containing no fillers. This expansion claims the same method for filled films containing at least 15% polyisobutylene. In German.

PB L 45710. I.G. FARBENINDUSTRIE A.G. Slide valve. (Patent application I 74864 XII/47g) (Enlargement Print of Frames 4895-4897 of FIAT Microfilm Reel 145, PB 19921) Apr 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
The object of this patent is an air-tight slide valve, constructed of thin metal, mainly for air pipes and the like. The essential feature consists of two movable shut-off plates. These are pressed tightly against the walls of the container without gliding movement, by means of an elbow lever construction. Three diagrams are given. In German.

PB L 45711. I.G. FARBENINDUSTRIE A.G. Sieve-bulge adjusting pliers. (Patent application I 74879 IX/87b) (Enlargement Print of Frames 4898-4900 of FIAT Microfilm Reel 145, PB 19921) Apr 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Special pliers are described for straightening out bulges caused by expansions in wire sieves such as used in paper and cellulose manufacture, and others using conveyers of this type. Double pliers, connected by a hinge, are shown in a drawing. In German.

PB L 45712. I.G. FARBENINDUSTRIE A.G. Preparation of colored photographic prints and transparencies with aid of derivatives of omega-cyano-acetophenon as color coupling component. (In addition to I 74691 IVa/57b) (Patent application I 74869 IVa/57b) (Enlargement Print of Frames 4901-4904 of FIAT Microfilm Reel 145, PB 19921) Price: Microfilm-$1.00 - Photostat-$1.00
In the main application a component for red was described of the general formula R-X-CO-$CH_2$-CN. R represented an aromatic group which may be substituted. This expansion claims that R may also represent a heterocyclic group which may be substituted in any way; or a mixed heterocyclic-aromatic group. X represents an aliphatic carbon chain with at least 2 C atoms. This carbon chain contains double and/or triple bonds; it may be substituted with aliphatic or aromatic radicals. Three examples and three formulas are given. In German.

PB L 45713. I.G. FARBENINDUSTRIE A.G. Preparation of polyamide compounds. (Patent application I 74891 IVc/39c) (Enlargement Print of Frames 4905-4908 of FIAT Microfilm Reel 145, PB 19921) Apr 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
In the preparation of many linear polyamides solvents are needed. It was found that cyanamides disubstituted by alkyl groups are particularly useful solvents or fluxes for this purpose. They are stable, do not tend to discover the product and are easily removable from it. Six examples are given. In German.

PB L 45714. I.G. FARBENINDUSTRIE A.G. Roll-film spool. (Patent application I 74899 IXa/57a) (Enlargement Print of Frames 4909-4914 of FIAT Microfilm Reel 145, PB 19921) Apr 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
The spool, according to this invention, carries in its flange a steerer of specific shape for each kind of film. This steerer sets in motion a device in the camera which indicates the kind of film used and its sensitivity. The steerer is a guiding curve, spiral or nut. Its working is explained in detail by means of three drawings. In German.

PB L 45715. I.G. FARBENINDUSTRIE A.G. Photographic or cinematographic cameras with coupled electric light meter and device for indicating kind of film inserted. (Patent application I 74898 IXa/57a) (Enlargement Print of Frames 4915-4919 of FIAT Microfilm Reel 145, PB 19921) Apr 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This invention combines two previously described devices. One is an indicator which, through an arrangement of pegs different for each type of film, shows by the position of a disk which kind of film is being used. The other is an electric light meter which allows variation of its zero position, so as to correspond with the sensitivity of the particular type of film used. The combination changes the zero position automatically by mechanically coupling the light meter with the indicator. How this is accomplished is shown in a drawing and described in detail. The invention may be applied to motion picture cameras as well. In German.

PB L 45716. I.G. FARBENINDUSTRIE A.G. Preparation of direct positives with aid of Sabatier's effect using material according to application I 72776 IVa/57b. (Patent application I 74941 IVa/57b) (Enlargement Print of Frames 4920-4921 of FIAT Microfilm Reel 145, PB 19921) May 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
The previous application described a second exposure for the development of the positive. Here it is added that the reaction of certain reducing agents may be substituted for a second exposure. Best were hydrogen peroxide and hydrazine hydrate and the substitution products of hydrazine. They may be used in a preliminary bath or as an addition to the developing bath. The method may also be used for color development. In German.

PB L 45717. I.G. FARBENINDUSTRIE A.G. Device for closing and opening of supply and work containers, as well as conveyer devices. Expansion of application I 74470 XII/39a. (Patent application I 74926 XII/39a) (Enlargement Print of Frame 4922 of FIAT Microfilm Reel 145, PB 19921) May 1943. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
The main application described a plug for closing containers and conveyers when working with liquefiable plastics such as polyamides, by cooling on the spot where the plug is desired and by melting the plug for opening. Special devices were needed to prevent the plug from drifting when heated. Here it is claimed that the cooling and warming devices should be located on a bend of the container or conveyer to prevent drifting. In German.

PB L 45718. I.G. FARBENINDUSTRIE A.G. Preparation of photographic color pictures by color development of silver halide emulsions. (Patent application I 74974 IVa/57b) (Enlargement Print of Frames 4923-4927 of FIAT Microfilm Reel 145, PB 19921) May 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
The novel color formers devised for use in color photography are acid amides of substituted 1-phenol-2-carboxylic acids and 3-amino pyridine. Instead of the latter anilines may be used having acid groups in 2,3 or 4 position of the anilide radical, and no other amino, alkyl or acid groups. These color components are prepared by known methods. The dyes obtained are distinguished by a very steep drop of their absorption curve toward both sides, particularly in the direction of the short waves. A graph illustrates their behavior. A table giving the absorption maxima of 11 dyes is added. In German.

PB L 45719. I.G. FARBENINDUSTRIE A.G. Preparation of polyureas and polythioureas. (Patent application I 74948 IVc/39c) (Enlargement Print of Frames 4928-4933 of FIAT Microfilm Reel 145, PB 19921) May 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
High polymeric polyureas and polythioureas are conveniently obtained by reacting amino compounds carrying two H-containing basic N-atoms with diisocyanates and/or diisothiocyanates in the presence of alcohols. If diisocyanates are used, the temperature has to be adjusted to the characteristic reactivity of the diisocyanates with the alcohols. While the nature of the alcohol does not play any part in the case of mustard oils, the use of diisocyanates makes the presence of secondary or tertiary alcohols as solvents desirable. Seven examples are given. Ten aliphatic amines and three diamines are mentioned specifically for this reaction. In German.

PB L 45720. I.G. FARBENINDUSTRIE A.G. Maltese cross drive. (Patent application I 74927 IXa/57c) (Enlargement Print of Frames 4934-4938 of FIAT Microfilm Reel 145, PB 19921) May 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is the description of a maltese cross driving mechanism (controlled by a steering contact or the like), designed to guide a screen or filter band in film printing machines. In this particular device the one-pin-disc rotates continuously, while the maltese cross is shifted axially through the steering contacts, in such a manner that it interlocks with the pin. The design is explained in detail and illustrated by diagrams. In German.

PB L 45721. I.G. FARBENINDUSTRIE A.G. Roll-film protecting paper. (Patent application I 74949 IVa/57b) (Enlargement Print of Frames 4939-4941 of FIAT Microfilm Reel 145, PB 19921) May 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Inscriptions on paper used to protect roll films may be produced without causing relief-like elevations, if temperature indicating colors are used. The color may infiltrate the whole mass of the paper or be contained in a special superficial layer. Eight inorganic colors, of the complex salt type are mentioned. In German.

PB L 45722. I.G. FARBENINDUSTRIE A.G. Process for the preparation of films and fibers from mixed polymers of asymmetric dichloroethylene. (Patent application I 74964 IVc/29b) (Enlargement Print of Frames 4942-4945 of FIAT Microfilm Reel 145, PB 19921) May 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
This patent application pertains to the preparation of films or fibers from copolymers of asymmetric dichloroethylene, containing a minimum of 75 percent dichloroethylene and having a softening point above 120 degrees. This patent claims the use of solutions in tetrahydrofuran of such copolymers prepared with total exclusion of oxygen. The method described in patent application I 61831 IVa/29b proved very useful for the spinning of these solutions. In this way fibers with a tensile strength in excess of 2.5 gm. per denier may be obtained in one step. In German.

PB L 45723. I.G. FARBENINDUSTRIE A.G. Preparation of stable solutions of dichloroethylene polymers in absence of oxygen, with at least 75 percent as dichloroethylene in tetra hydrofurane. (Patent application I 74965 IVc/29b) (Enlargement Print of Frames 4946-4948 of FIAT Microfilm Reel 145, PB 19921) May 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Since the solubility of dichloroethylene polymers decreases from oxidation, the stability during storage and processing of the solutions specified in this document is greatly improved by an addition of small amounts of reducing agents or substances capable of preventing oxidation. The solutions considered in this patent are suitable for the production of lacquers, films and fibers in the same way as the corresponding solutions produced and stored with exclusion of oxygen. Two examples are added. In German.

PB L 45724. I.G. FARBENINDUSTRIE A.G. Process for photographic marking of positives. (Patent application I 74941 IXa/57a) (Enlargement Print of Frames 4949-4955 of FIAT Microfilm Reel 145, 19921) May 1943. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
This patent application describes a photographic projection procedure by which the positive (or negative) may be marked with an inscription during the enlargement of a picture. According to the invention the text copy placed in contact with the printing paper and the negative (or positive) are printed simultaneously. The text copy, having the same size as the printing paper, is subdivided, by a separation line into a larger transparent area and a narrow strip containing the inscription to be photographed. The negative (or positive) also contains a separation line, which separates an area designed to carry the photograph of the inscription. Before taking the picture the negative (or positive) and the text copy have to be adjusted by a special device so that the separation lines are in register. The arrangement and operation of the apparatus used are explained in the document and illustrated by attached diagrams. In German.

PB L 45725. DEUTSCHE CELLULOID-FABRIK A.G., EILENBURG, GERMANY. Process for obtaining adhesion of layers of water soluble film formers on layers of vinyl chloride polymers. (Patent application D 90711 IVc/39b) (Enlargement Print of Frames 4956-4959 of FIAT Microfilm Reel 145, PB 19921) May 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
A firm adhesion of layers of water soluble film forming agents on layers of vinyl chloride polymers may be obtained by the following procedure: the film forming agents are spread on the surface of the vinyl chloride polymer film simultaneously with or after the application of an aqueous emulsion of a vinyl or acrylic acid copolymer of which at least one component contains an ester or ether group. This method is used in the production of photographic films. It is particularly useful for the preparation of matted surface films which are needed for retouching. Four examples are added. In German.

PB L 45726. I.G. FARBENINDUSTRIE A.G. Process for finishing fibers, yarns, weaves, textiles and other flat surface material from cellulose hydrate. (Patent application I 75033 IVd/8k) (Enlargement Print of Frames 4960-4963 of FIAT Microfilm Reel 145, PB 19921) May 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
The object of this invention is a process for improving fabrics specified in the document title. The swelling value of these fabrics had been reduced previously with formaldehyde in an acid bath. For this purpose the fabrics are kneaded and fulled in the presence of a neutral, acid or alkaline liquid. The further the swelling value of the cellulose hydrate is reduced, the more rapidly and completely the fulling effect will take place. It consists in a longitudinal contracting and a matting together of the loose fibers or those woven into fabrics. Two examples are added. In German.

PB L 45727. I.G. FARBENINDUSTRIE A.G. Process for the hardening of proteins. (Patent application I 72895 IVa/57b) (Enlargement Print of Frames 4964-4967 of FIAT Microfilm Reel 145, PB 19921) Aug 1942. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
Colloid layers, particularly of proteins such as glue, gelatine, casein, etc., and photographic layers made of these substances may be hardened by treatment with water soluble compounds containing in their molecule two ethylene oxide or ethylene imine rings. Thereby the disadvantages of the conventional hardening agents such as insufficient effect, difficulty in analysis, etc., are avoided. Seven examples are given. In German.

PB L 45728. I.G. FARBENINDUSTRIE A.G. Automatic device for indicating film grade for photographic or

cinematographic apparatus. (Patent application I 74903 IXa/57a) (Enlargement Print of Frames 4968-4973 of FIAT Microfilm Reel 145, PB 19921) May 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
This indicator uses a bore hole of specific length for each type of film, which causes a specific position for the peg operating a scale which shows the type of film being used, its sensitivity, or both. Details are explained on four drawings. Variations of the same idea are described, including its application for motion picture cameras. In German.

PB L 45729. I.G. FARBENINDUSTRIE A.G. Indicator device for kind and sensitivity of films inserted in photographic apparatus. (Patent application I 74902 IXa/57a) (Enlargement Print of Frames 4974-4979 of FIAT Microfilm Reel 145, PB 19921) May 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
The principal new item in this invention is a spring used (1) for better transmission from the steering device to the indicator, (2) for automatic return of the indicator to zero position when the reel is taken out. This idea may be used in combination with various previously described arrangements for automatic indication. It is described in detail and shown in three drawings. In German.

PB L 45730. I.G. FARBENINDUSTRIE A.G. Process for preparing linear polymers. (Patent application I 75008 IVc/39c) (Enlargement Print of Frames 4980-4990 of FIAT Microfilm Reel 145, PB 19921) May 1943. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00
Purpose of this invention is the preparation of linear polymers with urea- and/or thiourea groups in the chain from diisocyanates and/or di-mustard oils and amino-compounds with two H-containing basic N-atoms. At least in part such amino-compounds are reacted which have hydroxyl- and/or mercapto groups in the molecule. The temperature must be kept low enough that no reaction between acylating agents and hydroxyl- or mercapto-groups will occur. Tertiary alcohols should be used as solvents in the reaction with isocyanates. This is a long document mentioning a great number of starting materials and containing 4 examples. In German.

PB L 45731. I.G. FARBENINDUSTRIE A.G. Device for spectral changing of copying light for copying or enlarging color negatives. (Patent application I 74992 IXa/57a) (Enlargement Print of Frames 4991-5000 of FIAT Microfilm Reel 145, PB 19921) May 1943. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00
New in this application is the shift in the spectrum of the copying light for only part of the picture. This may be desirable e.g. for changing the colors of the faces in the foreground without changing the colors of the landscape background. It is accomplished by means of a filter which changes only part of the copying light. The filter may be moved during the process in order to produce gradual changes. Where the desired change is limited to a small surface, a stencil may be used in connection with the filter. In the former case the filter will be applied closer to the light source, in the latter closer to the negative. A combination color-neutral filter may be used, and other variations are mentioned. It is suggested as another solution to project colored light from a different light source on the parts of the picture to be affected in addition to the white copying light. The detailed description of the invention and its use is illustrated with five drawings. In German.

PB L 45732. I.G. FARBENINDUSTRIE A.G. Process and device for spinning of melts. (Patent application I 75045 VII/29a) (Enlargement Print of Frames 5001-5005 of FIAT Microfilm Reel 145, PB 19921) May 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
Standard methods encounter difficulties in the case of linear high polymers, which usually are obtained as powders. Non-melted particles penetrate into the nozzle and may cause clogging or defects. This application describes a device which, it is claimed, eliminates these difficulties. The powder passes through a screw conveyer in which it is heated under pressure while air is excluded. It enters the melting kettle in a softened state and then melts evenly. From this stage the process follows conventional methods. The detailed description is illustrated with two diagrams. In German.

PB L 45733. I.G. FARBENINDUSTRIE A.G. Light sensitive film with latent print on the margins. (Patent application I 75080 IVa/57b) (Enlargement Print of Frame 5006 of FIAT Microfilm Reel 145, PB 19921) May 1943. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
Roll films, particularly those on flangeless reels, frequently show fogginess in the margins which may render illegible when developed, latent print markings produced by exposure This is avoided by adding to the emulsion, in the margin zone, a desensitizer. One example is added. In German.

PB L 45734. I.G. FARBENINDUSTRIE A.G. Process for preparing polycarbamic acid compounds. (Patent application I 75079 IVc/39c) (Enlargement Print of Frames 5007-5015 of FIAT Microfilm Reel 145, PB 19921) May 1943 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
Polycarbamic acid compounds from amino-compounds with two H-containing basic N-atoms and bis chloro-formyl esters are obtained if only such bis chloro-formyl esters or amino compounds with two H-containing basic N-atoms are used which have laterally linked cyclic or open acetal or mercaptal groups. After hydrolysis of the acetal or mercaptal group the polycarbamic acid compounds are treated with substances reacting with hydroxyl or sulfhydryl compounds. This document contains numerous detailed formulas and two examples. In German.

PB L 45735. I.G. FARBENINDUSTRIE A.G. Device for the reversal of color negatives. Expansion of patent 715 240. (Patent application I 75173 IXb/75c) (Enlargement Print of Frames 5016-5026 of FIAT Microfilm Reel 145, PB 19921) May 1943. 11 p. Price: Microfilm-$1.00 Photostat-$1.00
The patent concerns an electrical method, using a cathode ray tube, for obtaining a positive image from a color negative for the purpose of checking the colors. This application adds an arrangement by which several positive images are obtained side by side. Their colors may then be modified in different ways and compared. The color modification may be accomplished electrically, by changing the intensity of one of the primary colors; or mechanically, by the use of filters in the primary colors having also a black or gray sector, allowing control by use of different proportions of color to grey. Construction and use are explained in detail by means of five drawings. In German.

PB L 45736. I.G. FARBENINDUSTRIE A.G. Process for preventing embrittlement of linear high polymers. (Patent application I 75101 IVc/39c) (Enlargement Print of Frames 5027-5031 of FIAT Microfilm Reel 145, PB 19921) May 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
Addition of small amounts of carbazol or carbazol derivatives to linear high polymers with amide groups in the chain during or after their preparation or molding will protect them against harmful influences of heat or light. Five examples. In German.

PB L 45737. I.G. FARBENINDUSTRIE A.G. Process for preventing embrittlement of linear high polymers. (Patent application I 75102 IVc/39c) (Enlargement Print of Frames 5032-5037 of FIAT Microfilm Reel 145, PB 19921) May 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
Addition of small amounts of bromine or iodine salts before, during or after molding to linear high polymers with amide groups in the chain will protect them against harmful influences of heat, light and weather. Five examples are added. In German.

PB L 45738. I.G. FARBENINDUSTRIE A.G. Process for sensitizing silver halide emulsions. (Patent application I 75161 IVa/57b) (Enlargement Print of Frames 5038-5040 of FIAT Microfilm Reel 145, PB 19921) May 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
It was found that certain anthraquinone derivatives may be used as sensitizers: those O-acyl derivatives of anthraquinones which have in their molecule at least two anthracene or phenanthrene ring systems connected by at least one C-C band. It is sufficient if one of the hydroxy groups is acylized. Eight examples are given. In German.

PB L 45739. DEUTSCHE CELLULOID-FABRIK, EILENBURG, GERMANY. Products made from linear polycondensates and polymerization products of the vinyl-, acrylic acid-, and isoolefin-group. (Patent application D 90878 XII/39a) (Enlargement Print of Frames 5041-5045 of FIAT Microfilm Reel 145, PB 19921) May 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
Polycondensates, especially those of polyamides or polyurethanes, are stretched and joined with linear polymers of vinyl-acrylic acid and isoolefins in the heat or in the heat with application of pressure. Five examples are added. In German.

PB L 45740. I.G. FARBENINDUSTRIE A.G. Process for preparing $\alpha$-cyano ketones which are substituted with an organic group in $\alpha_1$-position. (Patent application I 75167 IVd/12o) (Enlargement Print of Frames 5046-5050 of FIAT Microfilm Reel 145, PB 19921) May 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
In the presence of alkali metal or a similarly reacting alkali metal-compound and, if necessary, an inert solvent cyanoacetonitrile is reacted with such $\alpha,\beta$-unsaturated carboxylic acid esters which have no aliphatic double bond in connection with an aromatic group near the carboxyl group. Nine examples are added. In German.

PB L 45741. I.G. FARBENINDUSTRIE A.G. Preparation of osmotic membranes for dialytic purification of alkali lyes. (Patent application I 75182 IVb/121) (Enlargement Print of Frames 5051-5056 of FIAT Microfilm Reel 145, PB 19921) May 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
The shortage of cotton conventionally used for this purpose made it desirable to find a substitute. It was found, that cellulose fiber tissues or felts could be made lye resistant by impregnation with insoluble metal hydroxides. Three examples are added. In German.

PB L 45742. I.G. FARBENINDUSTRIE A.G. Process for the preparation of linear polycondensation products. (Patent application P 77507 IVc/39c) (Enlargement Print of Frames 5057-5059 of FIAT Microfilm Reel 145, PB 19921) Jun 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Urea or an aliphatic diurea is reacted with equimolecular amounts of an aliphatic diprimary diamine with at least three atoms between the amino groups at temperatures of at least 160°C until generation of ammonia stops. Five examples are added. In German.

PB L 45743. I.G. FARBENINDUSTRIE A.G. Preparation of aliphatic diureas. (Patent application I 75211 IVc/12o) (Enlargement Print of Frames 5060-5062 of FIAT Microfilm Reel 145, PB 19921) Jun 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Valuable aliphatic diureas could be obtained by the reactions of aliphatic diprimary diamines, particularly polymethylene diamines, with urea at a temperature between 120 and 160° C. The yield is very good. Four examples are given. In German.

PB L 45744. DEUTSCHE CELLULOID-FABRIK, EILENBURG, GERMANY. Process for improving characteristics of variously shaped linear polycondensates. (Patent application D 90967 IVc/39b) (Enlargement Print of Frames 5063-5065 of FIAT Microfilm Reel 145, PB 19921) Jun 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
The products, which may be shaped like films, plates, bands, pipes or bars are heated while stretched and immediately chilled to at least 0° with continued stretching. This tempering process "freezes" the linear molecules in the forced position. This method can be modified by first saturating the material with a hydroxyl containing liquid, such as water, alcohol or a mixture and subsequent freezing. Two examples are added. In German.

PB L 45745. I.G.FARBENINDUSTRIE A.G. Preparation of linear polyurea compounds. (Patent application I 75259 IVc/39c) (Enlargement Print of Frames 5066-5073 of FIAT Microfilm Reel 145, PB 19921) Jun 1943. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
Polyurea compounds were obtained by reacting diisocyanates or diisothiocyanates with amino compounds having two hydrogen containing basic nitrogen atoms. The temperature must be kept low enough to prevent the isocyanates from decomposing. The reaction takes place either in solution or dispersion in presence of water or organic solvents or a mixture of both. Nine examples are added. In German.

PB L 45746. I.G. FARBENINDUSTRIE A.G. Process for increasing stability of oxidizable photographic treatment baths. (Patent application I 75258 IVa/57b) (Enlargement Print of Frames 5074-5076 of FIAT Microfilm Reel 145, PB 19921) Jun 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
The stability of oxidizable photographic developers is increased by addition of hydroxylamine hydrochloride with aliphatic nitrogen containing polycarboxylic acids or their water soluble salts. Three examples with formulas are added. In German.

PB L 45747. I.G. FARBENINDUSTRIE A.G. Preparation of solutions and pastes from synthetic linear high polymers. (Patent application I 75260 IVc/29b) (Enlargement Print of Frames 5077-5079 of FIAT Microfilm Reel 145, PB 19921) Jun 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Organic sulfur containing amino- or hydroxy-compounds are used as solvents or plasticizers for solutions and pastes from linear high polymers with amido groups in the side chain, such as polyamides or polyurethanes. The solvents may be mixed if necessary with other solvents some of the specific solvents mentioned are: Thioethers like dihydroxydiethyl sulfide, or thioureas and in derivatives like aminothiazoles. Three examples are given. In German.

PB L 45749. I.G. FARBENINDUSTRIE A.G. Device for drying synthetic products, especially spinning fibers. (Patent application I 75337 V/82a) (Enlargement Print of Frames 5080-5083 of FIAT Microfilm Reel 145, PB 19921) Jun 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
The object of this patent is a drying cabinet containing a built-in shaking trough. The bottom of this trough may consist of a grate which may serve as a conveyer for the spinning fibers to be dried. Two drawings are added. In German.

PB L 45750. I.G. FARBENINDUSTRIE A.G. Preparation of dialysis membranes for alkaline liquids. (Patent application I 75362 IVb/12d) (Enlargement Print of Frames 5084-5086 of FIAT Microfilm Reel 145, PB 19921) Jun 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
This document concerns an additional application to the main patent I 66961 IVb/12d. It is claimed that materials used as dialysis membranes should contain threads or fibers from cellulose treated to be alkaline resistant in addition to fibers from high polymer hydrocarbons, their chlorinated derivatives or copolymers. In German.

PB L 45751. I.G. FARBENINDUSTRIE A.G. Process for stiffening of wires and bristles made of synthetic linear higher polymers. (Patent application I 75377 IVc/39b) (Enlargement Print of Frames 5087-5089 of FIAT Microfilm Reel 145, PB 19921) Jun 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
The objects are stretched, consolidated in their form and treated with alkali. Subsequently they are exposed to a temperature above 120 degrees for at least half an hour. This temperature should be about 50 degrees below the softening point of the polymer. This kind of heat treatment proved particularly useful in bristles exposed to moisture during use, as are required for tooth, nail and bottle brushes. In German.

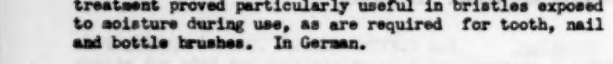
PB L 45752. I.G. FARBENINDUSTRIE A.G. Preparation of mono and polychromatic photographs and transparencies with aid of chromogenic development. (Patent application I 75379 IVa/57b) (Enlargement Print of Frames 5090-5096 of FIAT Microfilm Reel 145, PB 19921) Jun 1943. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
The color formers, resulting from the interaction of amino isophthalic esters and their substitution products with aceto nitrile (in the presence of alkali), proved to be valuable color forming agents with the following characteristics: Their corresponding purple dyes show absorption limits with a steep uniform drop and an absorption maximum of at least 520 mμ varying according to the substituent. These novel color formers are easily produced and excellently soluble in dilute alkalies. They are made diffusion resistant by the incorporation of suitable organic molecular radicals. Six examples are added. In German.

PB L 45753. I.G. FARBENINDUSTRIE A.G. Packingless valve. (Patent application I 75380 XII/47g) (Enlargement Print of Frames 5097-5100 of FIAT Microfilm Reel 145, PB 19921) Jun 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
The object of this invention is a packingless cone valve. It allows highly viscous masses to pass freely, and does not contain any dead corners. Upon shutting, any residues collecting are forced either into the feed pipe or the outlet pipe. The cone, being moved only in the direction of its longitudinal axis, does not perform any rotary motions. When open the valve gives a perfect direct shut-off of such a kind that in the case of a vacuum no air can enter from outside. Diagrams explain the design and operation of the valve. In German.

PB L 45754. I.G. FARBENINDUSTRIE A.G. Process for rending paper, especially photographic paper copies, transparent. (Patent application I 75391 IVc/55f) (Enlargement Print of Frames 5101-5103 of FIAT Microfilm Reel 145, PB 19921) Jun 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
After rendering photographic paper copies transparent with fatty oil, the removal of excess oil is often difficult. This patent application tries to solve the problem in the following way: The paper, after being treated with oil, goes through a treatment with wetting agents and is then rinsed in water. Instead, the procedure may be carried out in one step with a combined solution of oil and wetting agent. In German.

PB L 45748. I.G. FARBENINDUSTRIE A.G. Preparation of hydrochlorides of aminoalkylesters of chloroformic acid. (Patent application I 75413 IVc/12qu) (Enlargement Print of Frames 5104-5108 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
At a low temperature hydrochlorides (or sulfonic salts) of amino alkylesters or aminomercaptans are reacted with an excess of phosgene or substances reacting like phosgene. This reaction takes place perferably in presence of solvents which do not affect the reaction. Six detailed examples are added. In German.

PB L 45755. I.G. FARBENINDUSTRIE A.G. Preparation of linear polyurethanes. (Patent application I 75414 IVc/39c) (Enlargement Print of Frames 5109-5113 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
Hydrochlorides (or sulfonic salts) of aminoalkylesters of chloroformic acid either in liquid state or dissolved in organic solvents are used to produce linear polyurethanes. The starting substances should have the following structure:



R stands for a bivalent hydrocarbon radical, R' for hydrogen, alkyl or alkyl substituted by an indifferent radical, Y represents the anion of a strong acid. These starting substances are poured, if necessary drop by drop with vigorous stirring, into an aqueous solution of a compound that will combine with acids (e.g. potassium carbonate). The resulting polyurethans present suitable products for spinning. Three examples are added. In German.

PB L 45756. I.G. FARBENINDUSTRIE A.G. Process for preliminary treatment of protective paper for light sensitive photographic material. (Patent application I 75415 IVa/57b) (Enlargement Print of Frames 5114-5115 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
Before application of the conventional waxy protective layer the paper protecting light sensitive material is treated with a solution of a weak base, e.g. a solution of borax in methanol. In German.

PB L 45757. DEUTSCHE CELLULOID-FABRIK, EILENBURG, GERMANY. Process for applying layers of chlorine containing polymers on surfaces of linear polycondensates. (Patent application D 91142 IVc/39b) (Enlargement Print of Frames 5116-5119 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 4 p. Price: Microfilm-$1.00 Photostat-$1.00
Two or more copolymers of vinyl chloride, vinylidene chloride or styrene with monomers containing at least one ester and/or one ether group are used to produce bonding agents for applying protective or plasticizing layers on surfaces of linear polycondensates. These monomers should be able to copolymerize. Three examples are given for coating conveyer belts and similar objects. In German.

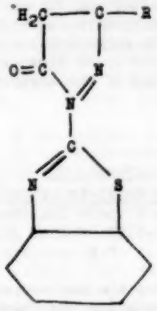
PB L 45758. I.G. FARBENINDUSTRIE A.G. Preparation of fixing baths for color pictures after previous chromogenic development. (Patent application I 75436 IVa/57b) (Enlargement Print of Frames 5120-5122 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Small amounts of water soluble aliphatic or aromatic seleninic or tellurinic acid or their salts are added to the fixing baths. The $p^H$ value of these baths should be kept between five and seven. This is effected by adding suitable buffer salts, e.g. sodium acetate. Three examples containing detailed formulas are added. In German.

PB L 45759. I.G. FARBENINDUSTRIE A.G. Production of colored stereo pictures. (Patent application I 75437 IVa/57b) (Enlargement Print of Frames 5123-5127 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
By means of a stereo-optic two stereo pictures are made, the colors of which are complementary. The pictures are made with stereoscopic parallaxis. For the exposure of the two stereo-part-pictures a photographic material is used having two silver halogenide emulsion layers, one of which is arranged above the other. The two layers may either be separated by a filter layer or the upper layer may contain a protecting dye. The two silver halogenide emulsion layers contain dye components not affecting the

gelatine and they should not be able to diffuse from one layer into the other. The part-color-pictures are developed by color development or according to the anti-diazotate process. A negative which is color complementary to the original is made and is printed onto the same material by which a positive of correct colors is obtained. In German.

PB L 45760. I.G. FARBENINDUSTRIE A.G. Preparation of colored prints and transparencies by substractive color process by means of chromogenic development. (Patent application I 74690 IVa/57b) (Enlargement Print of Frames 5128-5133 of FIAT Microfilm Reel 145, PB 19921) Mar 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00

For the development of the purple picture a diffusion proof component is used in the emulsion having the following general formula:



Where R represents an organic substituent capable of lessening the diffusion of pyrazolon in colloids, and X represents an acid group. In German.

PB L 45761. I.G. FARBENINDUSTRIE A.G. Process for stretching textile fiber bands. (Patent application I 74850 VII/76c) (Enlargement Print of Frames 5134-5136 of FIAT Microfilm Reel 145, PB 19921) Apr 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

By passing these bands through cylinder aggregates the cylinders of which are superimposed in order to achieve a meander-like passage. Four drawings are attached. In German.

PB L 45762. I.G. FARBENINDUSTRIE A.G. Preparation of multilayer color films by applying one or several additional light sensitive layers for production of masks. (Patent application I 75248 IVa/57b) (Enlargement Print of Frames 5137-5141 of FIAT Microfilm Reel 145, PB 19921) Jun 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

Multilayer color films are produced by applying one or several additional light sensitive layers in order to obtain masks. It is claimed in this patent, that either the normal layers of the picture or the layers of the mask may consist of direct positive emulsions. Two detailed examples are added. In German.

PB L 45763. I.G. FARBENINDUSTRIE A.G. Marking film grade. (Patent application I 75443 IXa/57a) (Enlargement Print of Frames 5142-5149 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00

An automatic device for showing the type of a film inserted into a camera is arranged in such a manner that the indicating device is operated by means of notches in the film. One or more feelers or pegs are provided in the camera. These feelers by making contact with the heads of the films and the fibers proper direct the indicating device by means of markings which are provided at specific positions of the film. Seven drawings are attached. In German.

PB L 45764. I.G. FARBENINDUSTRIE A.G. Film cameras. (Patent application I 75444 IXa/57a) (Enlargement Print of Frames 5150-5153 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 4 p. Price: Microfilm-$1.00 - Enlargement-$1.00

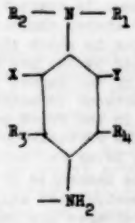
A film camera is described carrying a device which indicates the type of the inserted film. The film moving device is blocked if the indicating device is not engaged. Three drawings are attached. In German.

PB L 45765. I.G. FARBENINDUSTRIE A.G. Process for the production of anaglyphic pictures. (Patent application I 75491 IVc/57b) (Enlargement Print of Frames 5154-5156 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

Stereoscopic pictures may be transformed into enaglyphic pictures in the following manner: The stereoscopic black-white pictures are printed on a subtractive multilayer color material, after an anaglyphic negative has been prepared from the two pictures by known methods. The printing is done in such a way that the two pictures of the anaglyphic negatives are recorded (in different colors) in different layers of the printing material. The two layers of the anaglyphic negatives contain dyes the absorption maxima of which differ from each other as widely as possible, the absorption maximum of one dye coinciding with the absorption minimum of the other. The dyes used in this particular process are blue-green and yellow. In German.

PB L 45766. I.G. FARBENINDUSTRIE A.G. Preparation of color pictures according to color development process. (Patent application I 75492 IVa/57b) (Enlargement Print of Frames 5157-5161 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 5 p. Price: Microfilm-$1.00 Photostat-$1.00

In the color development process a wide variation of color shades is obtained, if developers of the following constitution are used



In this formula $R_1$ and $R_2$ are alirhatic or alirhatic aromatic radicals, X and Y represent H, $OCH_3$ or alkyl, and $R_3$ and $R_4$ stand for positive substituents, e. g. alkyl groups, which may be substituted by hydroxy or amino groups. Four detailed examples are added. Four graphs illustrate the behavior of color absorption. In German.

PB L 45767. I.G. FARBENINDUSTRIE A.G. Portable projection apparatus. (Patent application I 75527 IXa/57a) (Enlargement Print of Frames 5162-5164 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

This is an addition to a patent (application I 71062 IXa/57a) (PB 45491), in which a portable projection apparatus provided with a system of movable screens was described. In the design presented in this additional document two projection screens are so hinged on the cover of the case that one screen is freely movable when swung into position for using. When swinging beyond this position it carries the other screen from its rest position, placing it into using position. The diagram mentioned in the text is missing. In German.

PB L 45768. I.G. FARBENINDUSTRIE A.G. Lighting system for devices for copying or enlarging appliances for color negatives. (Patent application I 75528 IXa/57a) (Enlargement Print of Frames 5165-5169 of FIAT Microfilm Reel

145, PB 19921) Jul 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
Unlike the conventional illumination systems this system is so arranged that the illuminating surface of the light source, after the light has been passed through a powerful condenser, is projected (on a scale of 1 : 2 at most) on a plane where an intermediate converging lens is installed. Close to this lens color filters are set up for the correction of color adulterations. A light-diffusing screen is installed immediately in from of the color negative. In addition, a device for subduing the light of axis-near rays is inserted into the path of the illuminating system. A diagram illustrating the appliance is attached. In German.

PB L 45769. I.G. FARBENINDUSTRIE A.G. Preparation of linear polyamides. (Patent application I 75545 IVc/39c) (Enlargement Print of Frames 5170-5173 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
The object of this invention is a procedure for obtaining polyamides of pimelic acid, in which the latter before condensation is converted into a stable salt. Pimelic acid readily soluble in water can be distinguished from other dicarboxylic acids by its reaction with tetra methylene diamine forming a uniform, difficultly soluble acid salt, more exactly specified in the document. This salt is condensed in the heat with a diamine forming polyamides. At least an equivalent amount of the diamine is used. The linear polyamides thus obtained are suitable spinning material producing threads fast-to-boiling. They may be manufactured into stockings and underwear. Wool, cellulose wool and the like may be used as additional materials. In German.

PB L 45770. I.G. FARBENINDUSTRIE A.G. Miniature camera with gyratory shutter. (Patent application I 75587 IXa/57a) (Enlargement Print of Frames 5174-5181 of FIAT Microfilm Reel 145, PB 19921) 1943. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
This type of small film camera is characterized essentially by the fact that the sector-shaped shutter plates move transversely to the direction in which the film travels. The pivot pins of the shutter plates are arranged parallel with the longitudinal edge of the camera front. The shutter cocking lever is fastened immediately to a pivot pin, passes through a slot in the front part of the camera housing and swings in a plane vertical to the camera front. Shutter release and cocking lever are arranged on opposite sides of the lens unit. The mechanism of the camera allows the shutter release to be manipulated only when the shutter lever is cocked. Other advantages are smallness and convenience of operation of the camera. The design is illustrated by diagrams. In German.

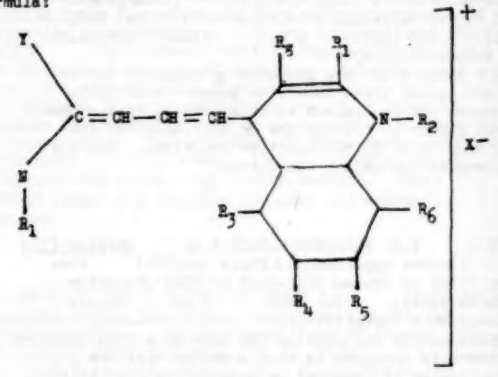
PB L 45771. I.G. FARBENINDUSTRIE A.G. Process for increasing viscosity of aqueous solutions of gelatin. (Patent application I 75600 IVc/39b) (Enlargement Print of Frames 5182-5184 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is an addition of patent application I 64771, which suggested the use of azyl amino compounds of aromatic sulfonic acids of a specified chemical composition, designed to increase the viscosity of aqueous gelatin solutions. In developing this method it proved effective to use compounds which are indirectly linked by means of at least 10 C atoms to aromatic sulfonic or carboxylic acids. In German.

PB L 45772. I.G. FARBENINDUSTRIE A.G. Process for increasing viscosity of aqueous solutions of gelatin. (Patent application I 75601 IVc/39b) (Enlargement Print of Frames 5185-5186 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is an addition to patent application I 64771 IVc/39, which described a process for increasing the viscosity of aqueous gelatin solutions by using azyl amino compounds of aromatic sulfonic acids (specified in the document). This additional patent application suggests the addition to the gelatin solutions of heterocyclic sulfonic or carboxylic acids in which aliphatic groups of at least 10 C atoms are linked (directly or indirectly) to the sulfonic or carboxylic acid. In German.

PB L 45773. I.G. FARBENINDUSTRIE A.G. Preparation of linear polycarbamic acid compounds. (Patent application I 75608 IVc/39c) (Enlargement Print of Frames 5187-5191 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
The preparation of the compounds specified in the title is accomplished by the interaction of diisocyanates or diisothiocyanates with diols, diamines or aminoalcohols. The ingredients are mixed at a slightly elevated temperature to cause almost complete solution. The resulting liquid is lead to a screw conveyer in which the material, while complete melting is avoided, is kept until the desired degree of polymerization is attained. Following this the material is either directly melted and formed or conveyed to a melting grate. by this procedure sudden rises of temperature are avoided and the polyurethanes thus obtained are uniform. Disintegration and cross linking does not occur. A flow sheet and diagram of the apparatus are attached. In German.

PB L 45774. I.G. FARBENINDUSTRIE A.G. Photographic or cinematographic camera with built-in electrical exposure meter. (Patent application I 75609 IXa/57a) (Enlargement Print of Frames 5192-5197 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
This invention concerns a camera the photo element of which is hit mainly by light rays producing the image. The arrangement of the photo element in relation to the path of rays from the finder is such that the measuring of the light intensity can be synchronized with the finding of the outlines of the projected picture and (under certain conditions) with the focusing of the object. The scale and hand of the photo element are arranged on the ground glass of the finder. The design is illustrated by a diagram. In German.

PB L 45775. I.G. FARBENINDUSTRIE A.G. Process for sensitization silver halide emulsions with aid of asymmetric carbocyanines. (Patent application I 75638 IVa/57b) (Enlargement Print of Frames 5198-5203 of FIAT Microfilm Reel 145, PB 19921) Aug 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
This patent application describes a process for sensitizing silver halide emulsions by means of asymmetric lepido carbocyanines, in which the lepidine ring is substituted by one or more halogen atoms. The dyes used have the general formula:



In this formula Y is sulfur or selenium or an additional substance commonly used in cyanine chemistry for closing a heterocyclic ring; $R_1$ and $R_2$ are alike or different alkyls, aryls or aralkyls; $R_3$ - $R_6$ are halogen atoms of the same kind or different; and X is a negative radical (Cl, Br, Cl $O_4$ or $SO_4$ $CH_3$). Eight examples and formulas are added. In German.

PB L 45776. I.G. FARBENINDUSTRIE A.G. Preparation of photographic color pictures according to the subtractive three-color process with aid of chromogenic development. (Patent application I 75673 IVa/57b) (Enlargement Print of Frames 5204-5209 of FIAT Microfilm Reel 145, PB 19921) Aug 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00

For the preparation of the color forming agents used in the above process isophthalic esters are reacted with acetonitrile in the presence of alkali. Excluded are such isophthalic esters which carry an anime group and are not substituted otherwise. The color forming agents are either incorporated into the silver halide emulsions during the preparation process or are added to the chromogenic developing solution. The exact mode of preparation of color formers is illustrated by seven examples. In German.

PB L 45777. I.G. FARBENINDUSTRIE A.G. Process for color-true copying of multicolor objects according to the subtractive process for production of multicolor pictures. (Patent application I 75696 IVa/57b) (Enlargement Print of Frames 5210-5215 of FIAT Microfilm Reel 145, PB 19921) Aug 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00

In the procedure of the subject heading insufficient absorption of dyes in color separation negatives causes color defects in the printing process. According to this patent application these shortcomings may easily be avoided, considering the following facts: In the zone of the spectrum which is involved by the "faulty" absorption of a dye relatively less light is transmitted than in a zone of the spectrum in which there is no "faulty" absorption. Hence this faulty absorption shifts the mutual relation of the spectral components. If the interrelation of the two color components of a mixture is changed, then the resulting color will change. Consequently, the relation which would exist between the spectral zones if it were not changed by any faulty absorption must not be disturbed in behalf of a true recording of color. Since, however, shiftings are unavoidable due to the imperfection of dyes, it is necessary to restore the original relation as properly as possible. For this purpose the present invention suggests to weaken the excess spectral zones encroaching upon the other seperation image zone by an additional absorption brought into their path of rays; this weakening process is to be carried to a point where the original relation is restored. In other words, the relation of the transmitted spectral zones is changed in such a way that the undesired absorptions of the dye are compensated. A table with diagrams illustrating the degree of sensitivity of light sensitive emulsions for the colors of the spectrum is attached. In German.

PB L 45778. I.G. FARBENINDUSTRIE A.G. Process for spinning of fully synthetic fibers. (Patent application I 75724 VII/76b) (Enlargement Print of Frame 5216 of FIAT Microfilm Reel 145, PB 19921) Aug 1943. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

This patent application suggests the use of pressure cylinders coated with layers of synthetic linear higher polymers, for the processing of fully synthetic fibers in worsted and cotton spinning mills. In German.

PB L 45779. I.G. FARBENINDUSTRIE A.G. Device for measuring and regulating pressure of synthetic melts flowing in pipes at high temperatures. (Patent application I 75741 IXb/42qu) (Enlargement Print of Frames 5217-5220 of FIAT Microfilm Reel 145, PB 19921) Aug 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

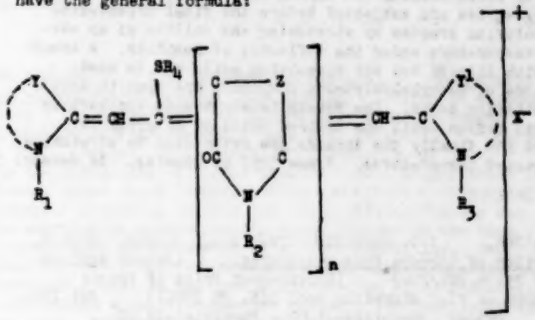
The principle of this invention is the arrangement of the manometer or pressure regulator outside the high temperature range and the use of a gas instead of a liquid as pressure transmitting agent. The device is characterized by the following feature: A connecting pipe is attached to the main pipe. The fused mass extends into a part of the connecting pipe. This connecting pipe communicates with a pressure measuring or pressure regulating device, and in addition to this with a boiler exposed to excess pressure. Between the connecting pipe and the boiler a pressure regulating valve is inserted. A diagram is included. In German.

PB L 45780. I.G. FARBENINDUSTRIE A.G. Process for removing bark, especially from beechwood. (Patent application I 75765 VII/55a) (Enlargement Print of Frames 5221-5222 of FIAT Microfilm Reel 145, PB 19921) Aug 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

The logs while being moved longitudinally are beaten in oblique direction with a tool fitted with a blunt edge in a right angle. The blows are performed by means of a machine constructed accordingly. The best results are achieved when the round edged tool that executes the blows continues immediately after the blow, to scrape along the surface of the log in the direction of its movement. In German.

PB L 45781. I.G. FARBENINDUSTRIE A.G. Process for sensitization of silver halide emulsions. (Patent application I 75793 IVa/57b) (Enlargement Print of Frames 5223-5232 of FIAT Microfilm Reel 145, PB 19921) Aug 1943. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00

Silver halide emulsions are sensitized by the use of rhodocyanins which are substituted in the chain by S-R and have the general formula:



where Y = sulfur, selenium or $C(CH_3)_2$ and the non metallic atoms for the formation of hetero-cyclus used in cyanin chemistry; $Y^1$ = oxygen, sulfur, selenium, $C-(CH_3)_2-CH=$ CH-, and the non metallic atoms for the formation of a heterocyclus used in cyanin chemistry; Z = oxygen, sulfur selenium, N-$R_5$; n = 1 or 2; $R_1$-$R_5$ = identical or different alkyl, aryl or arakyl proofs; X = a negative radical, i.e. Cl, Br, Iodine, $ClO_4$, $SO_4CH_3$, $SO_4C_2H_5$.

Fifteen detailed examples and formulas are attached. In German.

PB L 45782. DEUTSCHE CELLULOID-FABRIK A.G. EILENBURG, GERMANY. Preparation of solutions or pastes from nitrocellulose. (Patent application D 91496 IVc/22h) (Enlargement Print of Frames 5233-5238 of FIAT Microfilm Reel 145, PB 19921) Aug 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00

Nitrocellulose of any nitration grade is dissolved in hydrocarbons or chlorinated hydrocarbons which contain 10 to 30 percent of dissolved disubstituted cyanamide. The alkyl-, and/or aryl-, and/or hydroaryl- substitution radicals of the cyanamide may be identical or different from each other, or may be combined by means of a hetero-atom forming cyclus. In German.

PB L 45783. DEUTSCHE CELLULOID-FABRIK A.G., EILENBURG, GERMANY. Distillation apparatus. (Patent application D 91537 IVa/12a) (Enlargement Print of Frames 5239-5242 of FIAT Microfilm Reel 145, PB 19921) Aug 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

An apparatus for distillation of liquids containing dissolved crystalline and/or colloidal substances is shown. A drawing is attached. The apparatus is devised for alcohol -water mixtures, and contains a bottom column with inserted packed layers, built in directly under the feeding pipe. In German.

PB L 45784. I.G. FARBENINDUSTRIE A.G., WOLFEN, GERMANY. Preparation of clothing textiles from polyamides. (Patent application I 75328 IVc/29b) (Enlargement Print of Frames 5243-5251 of FIAT Microfilm Reel 145, PB 19921) Jun 1943. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00

Copolymers are produced by condensation of ε-coprolactam with the adipic salt of tetramethylendiamine. Instead of the adipic salt a methylated adipic salt and instead of tetramethylendiamine either penta- or hexmethylendiamine may be used to produce the copolymer. In some cases the presence of formic acid or formic acid salts is required. By varying the starting substances in the above mentioned way textile fibers of varying properties were obtained. Three examples are added. Four graphs concerning the resistance towards boring are attached. In German.

PB L 45785. I.G. FARBENINDUSTRIE A.G., WOLFEN, GERMANY. Preparation of fibers and surface structures. (Patent application I 75575 IVc/29b) (Enlargement Print of Frames 5252-5260 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00

Threads and films of methylolpolyamide compounds are produced by first shaping the aggregates from solutions. Then the aggregates are subjected before the final orientation to a maturing process by stretching and rolling at an elevated temperature under the influence of humidity. A treatment with diluted but not dissolving acids may be used. Solutions of methylolpolyamide compounds are spun in acid precipitation baths. The precipitated threads are left in the acid medium until the desired point of maturity is reached and finally the threads are orientated by stretching at elevated temperatures. Frame 5252 is missing. In German.

PB L 45786. I.G. FARBENINDUSTRIE A.G., WOLFEN, GERMANY. Production of threads from polyamides. (Patent application I 75576 IVc/29b) (Enlargement Print of Frames 5261-5269 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00

Methylol compounds of high polymer linear polyamides are spun in volatile solvents according to the dry spinning process and the stretched and twisted threads are heated under tension to the hardening temperature. Methylol compounds are used which are derived from polyamides soluble or insufficiently soluble in alcohol. Three examples are added. In German.

PB L 45787. I.G. FARBENINDUSTRIE A.G., WOLFEN, GERMANY. Process for finishing shaped structures from polyamides. (Patent application I 75577 IVc/39b) (Enlargement Print of Frames 5270-5272 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

Shaped structures from alcohol soluble methylol compounds of linear polyamides are treated with diluted but non dissolving acids or with water vapor in the presence of acids without subsequent orientation. One example is added. In German.

PB L 45788. I.G. FARBENINDUSTRIE A.G. Process for chemical modification of polyamide compounds reacted with formaldehyde. (Patent application I 75578 IVc/22b) (Enlargement Print of Frames 5273-5283 of FIAT Microfilm Reel 145, PB 19921) Jul 1943. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00

Polyamide compounds produced from reactions with formaldehyde are subjected to the action of alkali solutions or to the vapors of those solutions until chemical modification has occurred which changes their solubility. Especially those polyamides are treated in the mentioned way, which were originally insoluble or insufficiently soluble in alcohol. The treatment with alkali may take place in presence of cation active substances before or after the shaping of the polyamides. Twelve examples and one chart are added. In German.

PB L 45789. I.G. FARBENINDUSTRIE A.G., WOLFEN, GERMANY. Adhesive process. (Patent application I 75813 IVd/22l) (Enlargement Print of Frames 5284-5295 of FIAT Microfilm Reel 145, PB 19921) Sep 1943. 12 p. Price: Microfilm-$1.00 - Photostat-$1.00

Soluble methylol compounds of linear polyamides especially those of copolyamides or mixtures thereof or mixtures with other soluble polyamides are used as adhesives. The bonding may be combined with a heat treatment. The area to which the adhesive is applied may contain humidity before it is treated with heat. The hardening process may be achieved by the presence of alkaline substances. The methylol polyamide compounds may be applied as a film or foil for adhesive purposes. The film may contain carrier materials. 18 examples are given. In German.

PB L 45790. I.G. FARBENINDUSTRIE A.G., WOLFEN, GERMANY. Webbed braid. (Patent application I 75830 VII/86g) (Enlargement Print of Frames 5296-5297 of FIAT Microfilm Reel 145, PB 19921) Sep 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

A webbed braid consisting of a yarn of polyamide- or of polyurethan filament is made glossy by surface treatment with solvents or swelling agents under additon to high-polymer substances. Four examples are added. In German.

PB L 45791. I.G. FARBENINDUSTRIE A.G., WOLFEN, GERMANY. Support for sound-films in motion picture projectors. (Patent application I 75842 IXa/42g) (Enlargement Print of Frames 5298-5302 of FIAT Microfilm Reel 145, PB 19921) Sep 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

These optics are assembled in a tube and mounted in the projector by means of a single screw, for simple adjustment and removal, to permit cleaning. Drawings are included. In German.

PB L 45792. DEUTSCHE CELLULOID-FABRIK A.G., EILENBURG, GERMANY. Preparation of thin films from polyamides. (Patent application D 91613 IVc/39b) (Enlargement Print of Frames 5303-5305 of FIAT Microfilm Reel 145, PB 19921) Sep 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

This is an addition to the main patent (application D 81720 IVc/39b of Dec 15, 1939), in which a process for the preparation of sheets, tubes, rods, etc., from polyamides was described. The present document outlines a process for making thinner sheets than could be produced by the process described in the main patent. Very thin sheets, thinner than 0.09 mm (to 0.05-0.02 mm) can be produced, when the heated and molten polyamides containing the swelling agents are drawn out by passing over cold cylinders. These sheets, which have a high softening point are used in the manufacture of wrapping material and wicker-work. One example. In German.

PB L 45793. DEUTSCHE CELLULOID-FABRIK A.G., EILENBURG, GERMANY. Process for obtaining adhesion of layers of water soluble film forming agents on layers of cellulose trifatty esters. (Patent application D 91735 IVa/39b) (Enlargement Print of Frames 5306-5308 of FIAT Microfilm Reel 145, PB 19921) Sep 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

Most of the conventional methods of gluing photographic layers on cellulose triacetate bases are based on the use

PB L 45797. I. G. FARBENINDUSTRIE A. G. Process for determination of the color density curve of individual color component layers in a subtractive multilayer film, by elimination of subjective judgement of color transparency by the eye. (Patent application I 75989 IXa/57c) (Enlargement print of Frames 5320-5323 of FIAT Microfilm Reel 145, PB 19921) Oct 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

For an objective determination of correct printing conditions a colored sensitometer record on the negative film (to be

examined/ is measured by means of a photocell. For this purpose light of such wave lengths is used to which the individual color component layer (to be measured) of the positive material (to be used for printing) is spectrally sensitive. The light source serving for measuring the sensitometer record is decomposed spectrally. In front of the spectrum a mask is placed which transmits only the light of those spectral ranges to which the positive material is sensitive. In German.

PB L 45798. I. G. FARBENINDUSTRIE A. G. Process for the sole reproduction or emphasis of the black parts of a color pattern, especially for reproduction of multicolored graphic patterns. (Patent application I 76000 IVa/57d) (Enlargement Print of Frames 5324-5325 of FIAT Microfilm Reel 145, PB 19921) Oct 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
The colored copy containing the black-white pattern is photographed with infrared rays while cutting out all visible rays. For this purpose a black filter which absorbs all visible rays is placed in front of the lens unit of the camera. As photographic material a film sensitized to infrared is used. In German.

PB L 45799. I.G. FARBENINDUSTRIE A.G. Watering devices, especially for photographic plates, films and sheets. (Patent application I 76032 IXa/57c) (Enlargement Print of Frames 5326-5327 of FIAT Microfilm Reel 145, PB 19921) Oct 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
The watering device described in this patent application consists of a feed pipe, a reservoir, a distributing pipe, and a dam-like device. These parts are so arranged that the rinsing water is uniformly distributed and, in an even flow, rinses the film (or plate) placed in a slanting position. The drawing referred to in the text is missing. In German.

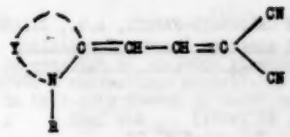
PB L 45800. I.G. FARBENINDUSTRIE A.G. Preparation of synthetic spinning fibers from tangled wastes of synthetic thread production. (Patent application I 76043 VII/76b) (Enlargement Print of Frames 5328-5329 of FIAT Microfilm Reel 145, PB 19921) Oct 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
The tangled waste threads are cut by known methods, carded for the paralled arrangement of the individual fibers, and if necessary stretched and curled. Subsequently, the card fleece is re-cut in order to remove the remaining excessively long fibers. Thus high quality artificial spinning fibers, workable into neat yarn, are obtained. In German.

PB L 45801. I.G. FARBENINDUSTRIE A.G. Process for sensitization of silver halide emulsions. (Patent application I 76060 IVa/57b) (Enlargement Print of Frames 5330-5336 of FIAT Microfilm Reel 145, PB 19921) Oct 1943. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
The dyestuffs used in the subject matter have the following general constitution:
of organic solvents. Hereby the texture of the film in certain surface areas is necessarily changed in relation to the surface. This patent application describes a procedure by which satisfactory adhesion of gelatin and other water soluble film forming agents to surfaces of cellulose trifatty esters, particularly cellulose triacetate, is accomplished without the use of organic agents. Aqueous emulsions (free of solvents) of polyacrylic esters or their copolymers with vinylesters, vinylethers, vinylchloride or with styrol, are used to form the adhesive layer, on which the gelatine layer is mounted. The emulsions when dry form clear, firmly adhering layers, which do not interfere with the flexibility of the film base. Three examples are added. In German.

PB L 45794. I.G. FARBENINDUSTRIE A.G., WOLFEN, GERMANY. Process for gluing textiles, weaves, braids of woven or knit bands, straps, or belts made of synthetic threads soluble in organic solvents. (Patent application I 75975 IVd/81) (Enlargement Print of Frames 5309-5310 of FIAT Microfilm Reel 145, PB 19921) Oct 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
The surfaces to be glued together are first lined with a sheet of thermoplastic material while heat is applied. Subsequently these lined surfaces are glued together with solvents for the lining material. Seven examples are given. In German.

PB L 45795. I.G. FARBENINDUSTRIE A.G., WOLFEN, GERMANY. Process for continuous production of linear polyurethans from diisocyanates and glycols. (Patent application I 75976 IVc/39c) (Enlargement Print of Frames 5311-5315 of FIAT Microfilm Reel 145, PB 19921) Oct 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
Linear polyurethans of uniform quality can be continuously produced by the following method. Homogeneous liquid mixtures of equivalent quantities of the polyurethan forming substances are forced through a flow heater kept at the temperature of reaction. Inside this heater the solution of the substances (which contain polyurethan solving agents boiling below 150 degrees) is heated under pressure results after completion of the reaction. The flow heater is built to enable the levels of the solution in the zones of different temperatures to communicate through their gaseous phase. Two variations of this process are described in the text. The molten mass of polyurethan may be directly formed into threads or bristles. One example is added. In German.

PB L 45796. I.G. FARBENINDUSTRIE A.G. Preperation of highly fusible linear polyurethans. (Patent application I 75977 IVc/39c) (Enlargement Print of Frames 5316-5319 of FIAT Microfilm Reel 145, PB 19921) Oct 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
In the processing of highly fusible linear polyurethans into forms, minor cross linkings often constitute a disturbing factor. According to this invention this difficulty can be overcome by performing the final linking to the high polymer with diisocyanates of a minor reactivity. For this purpose linear polyurethans containing alcoholic hydroxyl groups as end groups are reacted at an elevated temperature with diisocyanates having a low reactivity due to their stereochemical structure. The amount of the diisocyanate should be approximately equivalent to the number of the end groups of the polyurethans. Three examples are added. In German.




In this formula Y represents an atom group necessary for the cyclic closing of a 5- or 6-link heterocycle and R an alkyl or aralkyl. Twelve examples are given. In German.

PB L 45802. I.G. FARBENINDUSTRIE A.G. Preparation of halohydrins. (Patent application I 76091 IVd/12o) (Enlargement Print of Frames 5337-5342 of FIAT Microfilm Reel 145, PB 19921) Oct 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
The conventional method of heating multivalent alcohols with aqueous hydrohalic acids usually produces several degrees of halogenation. These reaction products cannot easily be isolated. This difficulty is avoided, and a better yield achieved, by heating di- or poly-hydroxy compounds with aqueous hydrohalic acids in presence of an extracting agent. This method is particularly suitable for preparation of halohydrins with about 5-8 carbon atoms in the molecule. The extracting agent absorbs the halohydrin formed and thus prevents further substitution. The method is adaptable for continuous process. In this case an extractive is used which is not evaporated with the steam used to separate the produced halohydrins. Three examples are given. In German.

PB L 45803. DEUTSCHE CELLULOID-FABRIK A. G., EILENBURG, GERMANY. Forming of articles from polymerization prod-

ucts of vinyl chloride by pressure molding. (Patent application D 91779 XII/39a) (Enlargement Print of Frames 5343-5347 of FIAT Microfilm Reel 145, PB 19921) Oct 1943 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
The principal idea of this invention is to give the objects a preliminary shape, approaching the final shape, but containing grooves, holes, indentations, etc., which allow a more uniform warming of the entire object. This makes for better mechanical qualities after final shaping and cooling. Five diagrams are added. In German.

PB L 45804. I.G. FARBENINDUSTRIE A.G. Preparation of dihydroxy diamine compounds. (Patent application I 76194 IVc/12qu) (Enlargement Print of Frames 5348-5350 of FIAT Microfilm Reel 145, PB 19921) Nov 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Glyoxal or its soluble polymers are reacted with an excess of nitroparaffins having a reactive hydrogen atom in alpha position to the nitro group. The reaction takes place in the presence of an alkaline catalyst. The products obtained are reduced to the desired amino compounds. One example is added. In German.

PB L 45805. I.G. FARBENINDUSTRIE A.G. Recovery of polyamide wastes. (Patent application I 76238 IVc/12p) (Enlargement Print of Frames 5351-5355 of FIAT Microfilm Reel 145, PB 19921) Nov 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
Polymeric epsilon-caprolactam, alone among the polyamides, may be depolymerized almost quantitatively to the monomeric starting material, thus allowing economical utilization of wastes. The following method is recommended: The polymeric material is melted in an alkaline liquid heated to about 250°C, under exclusion of air; the molten mass is dissociated by distillation at low pressure in presence of alkali acetate at 290-350°C. Potassium acetate may be used for both melting and distilling, but many other substances are possible for the former. Vaporized hydrocarbons or other water non-soluble substances having a boiling point like lactam or slightly higher may be used for stirring. Two examples are added. In German.

PB L 45806. DEUTSCHE CELLULOID-FABRIK, A.G., EILENBURG, GERMANY. Process for applying layers of cellulose derivatives soluble in organic solvents on surfaces of linear polycondensates. (Patent application D 92090 IVc/39b) (Enlargement Print of Frames 5356-5359 of FIAT Microfilm Reel 145, PB 19921) Nov 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
The use of a solvent for cellulose derivatives which is a precipitant for linear co-polymers results in very good adhesion of the layer and improves the mechanical qualities of the resulting double layer. Process may be used for manufacturing table covers, oilcloth, etc. One example and one chart are added. In German.

PB L 45807. I.G. FARBENINDUSTRIE A.G. Preparation of differently colored negative and positive partial pictures in a photographic material with one or several light-sensitive layers, especially for preparation of masks. (Patent application I 76240IVa/57b) (Enlargement Print of Frames 5360-5369 of FIAT Microfilm Reel 145, PB 19921) Nov 1943. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00
It was found that positive and negative partial pictures may be obtained in one and the same material by simultaneous simple and reversed development. One or several emulsion layers may be used. In the case of several layers dye components may be used in one layer and not used in the other. Selective second exposure may be used, and selective filter layers may be produced in order to shield some layers against the second exposures. The method may be varied in a number of ways. Its main application is the preparation of "masks" for color correction. Five examples and diagrams are added. In German.

PB L 45808. I.G. FARBENINDUSTRIE A.G. Process for optical sensitization of silver halide emulsions. (Patent application I 76239 IVa/57b) (Enlargement Print of Frames 5370-5373 of FIAT Microfilm Reel 145, PB 19921) Nov 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
It was found that silver halide emulsions may be sensitized by high molecular hydrocarbons consisting of several anellated benzene rings, e.g. perylene. Their further substitution with benzene rings not only increases the intensity of sensitization but shifts its maximum, so that these new sensitizers may be used for the entire visible spectrum. Addition of a wetting agent is advisable. Seven examples are added.

PB L 45809. I.G. FARBENINDUSTRIE A.G. Preparation of shaped structures. (Patent application I 76276 IVc/29b) (Enlargement Print of Frames 5374-5376 of FIAT Microfilm Reel 145, PB 19921) Nov 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
This procedure has overcome the inconvenience caused by the volatility of the monomeric simple lactams in the melt. Lactam compounds having two or more lactam rings connected by alkylene groups are used instead. Four examples are given. In German.

PB L 45810. I.G. FARBENINDUSTRIE A.G. Apparatus for climatic adjustment of gas, moisture and temperature, sensitive articles especially sheets and films. (Patent application I 76287 IXb/42l1) (Enlargement Print of Frames 5377-5381 of FIAT Microfilm Reel 145, PB 19921) Nov 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
The device contains a drum which is axially and radially subdivided into many cells so as to allow simultaneous conditioning of many samples. The walls between the cells are perforated in order to allow a free flow of the conditioned air. The device is shown in three drawings. In German.

PB L 45811. I.G. FARBENINDUSTRIE A.G. Preparation of derivatives of symmetric triazine. (Patent application I 76168 IVc/12p) (Enlargement Print of Frames 5382-5387 of FIAT Microfilm Reel 145, PB 19921) Oct 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
Alkylated ureas and thioureas are condensed with carbonic acid diethylesters at a temperature above 100° to give symmetric triazine derivatives, useful as intermediates in the production of dyes, pharmaceuticals, and photographic emulsions. Six examples are given. In German.

PB L 45812. DEUTSCHE CELLULOID-FABRIK, A.G., EILENBURG, GERMANY. Splinter protecting screen. (Patent application D 89257 XI/72g) (Enlargement Print of Frames 5388-5391 of FIAT Microfilm Reel 145, PB 19921) Nov 1942. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
The protecting screen is shaped as a hollow object from thermoplastic polymers, i.e. from vinyl-arcryl- and iso-olefin polymers. This screen is attached to a metal plate and may contain intermediate layers of inorganic materials having a low heat conductivity. The attached drawings are missing. In German.

PB L 45813. DEUTSCHE CELLULOID-FABRIK A.G., EILENBURG, GERMANY. Process for reutilization of boiler waste water. (Patent application D 91903 X/13b) (Enlargement Print of Frames 5392-5394 of FIAT Microfilm Reel 145, PB 19921) Oct 1943. 3 p. Price: Microfilm-$1.00 Photostat-$1.00
Waste water from boilers is cooled, passed through an ion exchanger, neutralized if necessary and subsequently freed from salt and alkali content and eventually returned to the feed water purifier or directly to the kettle. In German.

PB L 45814. I.G. FARBENINDUSTRIE A.G. Preparation of polyurethans. (Patent application I 76098 IVc/39c) (Enlargement Print of Frames 5395-5402 of FIAT Microfilm Reel 145, PB 19921) Oct 1943. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00

The amino compounds used as starting materials contain hydroxyl and sulfhydryl groups separated by at least three carbon atoms from the next hydrogen carrying amino nitrogen. Amino compounds, carrying two basic nitrogen atoms with one hydrogen atom each, are reacted with esters of bis-chloroformyl acid. The resulting hydroxy polyurethans represent suitable material for textile, fiber, or molded plastic production. Four examples are added. In German.

PB L 45815. I.G. FARBENINDUSTRIE A.G. Production of blue - black and/or brown - black tones on photographs with silver halide layers and simultaneous reduction of the halation. (Patent application I 76126 IVa/57b) (Enlargement Print of Frames 5403-5406 of FIAT Microfilm Reel 145, PB 19921) Oct 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

The picture is developed in the presence of heterocyclic compound having a quaternary nitrogen and a photographically active sulfur atom in the molecule. Thiazolium and thiazanium compounds are suggested. Eight examples are added. In German.

PB L 45816. I.G. FARBENINDUSTRIE A.G. Preparation of yellow photographic color pictures. (Patent application I 76127 IVa/57b) (Enlargement Print of Frames 5407-5412 of FIAT Microfilm Reel 145, PB 19921) Oct 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00

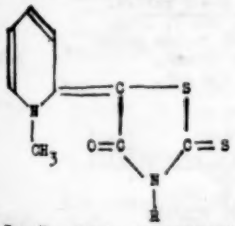
Reaction products from multibasic organic acids with aminoacylacetylarylides containing soluble making groups are used as dye forming substances for the preparation of yellow photographic pictures. They are used especially for subtractive multicolor pictures by means of silver halide layers provided with dye forming compounds previous to the photographic exposure. The diffusion of said dye forming compounds from the colloid layers is impeded. The aryl-, or the aminoacylacetyl-radical, or both of them are provided with substituents impeding the diffusion from the colloidal layers. One example is added. In German.

PB L 45817. DEUTSCHE CELLULOID-FABRIK, A.G., EILENBURG, GERMANY. Preparation of solutions or pastes from re-chlorinated polyvinylchloride. (Patent application D 92180 IVc/22H) (Enlargement Print of Frames 5413-5416 of FIAT Microfilm Reel 145, PB 19921) Dec 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

Substances known as, or acting as, placticizers having a dipol moment of at least $\mu = 2.3D$ are dissolved in carbontetrachloride. Such solutions of low concentrations are used as solvents for re-chlorinated polyvinylchloride. 40-100% by weight, based on the amount of used polyvinylchloride is the part of the plasticizer. For the activation of carbontetrachloride secondary amines are used which are substituted by -CN, $-NO_1-NO_2$, and -COH groups. The two substituents can be linked directly or over a heterocyclic bridge. By means of this invention uninflammable varnishes may be produced. Six examples are given. In German.

PB L 45818. I.G. FARBENINDUSTRIE A.G. Process for sensitization of silver halide emulsions, especially of silver chloride and bromide emulsions by means of "merocyanin dyes." (Patent application I 76370 IVa/57b) (Enlargement Print of Frames 5417-5420 of FIAT Microfilm Reel 145, PB 19921) Dec 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

Dyes of the following general formula are used:



Where R = H, alkyl, unsubstituted and substituted phenyl, unsubstituted and substituted arakyl or alkylcarboxylic esters. Three examples are added. In German.

PB L 45819. I. G. FARBENINDUSTRIE A. G. Preparation of polyamides. (Patent application I 76407 IVc/39c) (Enlargement Print of Frames 5421-5423 of FIAT Microfilm Reel 145, PB 19921) Dec 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

N,N'-thiocarbonyl-bis-amino carboxylic acids with at least 5 C-atoms between nitrogen atoms and carboxylic groups are subjected to auto-condensation, if necessary in the presence of formic acid. Two examples are added. In German.

PB L 45820. I. G. FARBENINDUSTRIE A. G. Process for dulling and curling textiles from synthetic linear high polymers. (Patent application I 76436 IVc/8k) (Enlargement Print of Frames 5424-5426 of FIAT Microfilm Reel 145, PB 19921) Dec 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

Polyamides and polyurethans as well as other synthetic linear high polymers with amide groups in the chain are dulled and curled by treating these polymers with an aqueous solution of compounds forming urea-formaldehyde resins. This treatment is applied in the presence of calcium soap dispersing agent at moderately elevated temperature, not exceeding 60° C. The high polymers are treated previously or simultaneously with polyethylene amine. Three examples are added. In German.

## MISCELLANEOUS

PB L 70432. DEUTSCHES MUSEUM, PATENTARCHIV, MUNICH, GERMANY. Patents in various fields. (FIAT Microfilm Reel E 29, Frames 4-919) 1928-1943. 915 f. Price: Microfilm-$6.00 - Enlargement print-$91.50

This reel consists of 352 patents issued by the German Patent office from Dec. 1943 to Nov. 1944. The patent numbers range from 743 930 to 744 000, 743 601 to 743 700, and 744 001 to 744 200 (some patents are missing). The individual patents are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB, patent and frame numbers when ordering individual items. In German.

| Frames | Title | Price |
|---|---|---|
| 4-5<br>PB L 70432 | WILLERS, HANS-BODO, BERLIN. Network for influencing the amplitude of oscillations depending on their frequency. Ger. patent 743 930, Jan 5, 1944. Application I 61 067 VIIIa/21a$^2$ dated Apr 13, 1938. Inventor: Ahier, J. In German. Wiring diagrams. | $1.50 |
| 6-7<br>PB L 70432 | TELEFUNKEN GES. FÜR DRAHTLOSE TELEGRAPHIE M.B.H., BERLIN. Adjustment for high frequency variometer. Ger. patent 743 931, Jan 7, 1944. Application T 52 476 VIIIa/21a$^4$ dated Jul 2, 1939. Inventors: Witthöft, H. and others. In German. Drawing. | 1.50 |
| 8-10<br>PB L 70432 | ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Remote control for heavy objects such as rudders. Ger. patent 743 932, Jan 5, 1944. Application L 96 829 VIIIb/21c dated Jan 13, 1939. Inventor: Pfister, K. In German. Wiring diagram. | 1.50 |
| 11-12<br>PB L 70432 | WILLERS, HANS-BODO, BERLIN. Process for manufacture of capacitors which consist of alternate metal and dielectric layers contained between two rigid plates enclosed in a synthetic resin case. Ger. patent 743 933, Jan 5, 1944. Application I 60 216 VIIIc/21g dated Nov 11, 1938. Inventors: Leño, J. and Edwards, J. In German. Drawings. | 1.50 |

13-16 PB L 70432 WILLERS, HANS-BODO, BERLIN. Wave filter with several elements in series which contain piezoelectric crystals as impedances. Ger. patent 743 934, Jan 13, 1944. Application I 62 670 VIIIc/21g dated Oct 15, 1938. Inventor: Sykes, R. In German. 1.50
Wiring diagrams.

17-18 PB L 70432 GRAETZ A.G., BERLIN. Heating element for electric stoves and hot plates. Ger. patent 743 935. Application E 55 170 VIIIc/21h dated Aug 8, 1941. Inventor: Howald, M. In German. 1.50
Drawings.

19-22 PB L 70432 SCHUBERT & SALZER MASCHINENFABRIK A.G., CHEMNITZ. Drive for thread guide rails of flat hosiery knitting machines. Ger. patent 743 936, Jan 17, 1944. Application Sch 113 332 VII/25a dated Jul 16, 1937. In German. 1.50
Drawings.

23-24 PB L 70432 SACHSENWERK, LICHT UND KRAFT A.G., NIEDERSEDLITZ. Centrifugal fan. Ger. patent 743 939, Jan 6, 1944. Application S 128 877 Ia/27c dated Sep 26, 1937. Inventor: Hartwagner, L. In German. 1.50
Drawing.

25-26 PB L 70432 BRÜXER VERBANDSTOFF-WERKE, ADOLF FISCHER, BRÜX. Hemorrhoidal bandage for men. Ger. patent 743 940, Jan 7, 1944. Application B 191 036 IXa/30d dated Jun 26, 1940. Inventors: Schaffer, W. and Seuss, F. In German. 1.50
Drawings.

27-30 PB L 70432 STOLLENWERK G.M.B.H., POTSDAM. Litter with sled runners. Ger. patent 743 941, Jan 6, 1944. Application St 60 237 IIa/30e dated Nov 23, 1940. Inventors: Stollenwerk, H. and others. In German. 1.50
Drawings.

31-32 PB L 70432 I.G. FARBENINDUSTRIE A.G., FRANKFURT A.M. Soap-like skin cleansing preparations (such as powder bases). Ger. patent 743 942, Jan 6, 1944. Application I 67 140 Wa/30h dated Jun 6, 1940. Inventors: Brodersen, K. and Quaedvlieg, M. In German. 1.50

33-34 PB L 70432 FISCHER, A. (Inventor). Method and equipment for production of core sand. Ger. patent 743 943, Jan 6, 1944. Application F 90 243 VIa/31c dated Jul 12, 1941. In German. 1.50
Drawings.

35-36 PB L 70432 CREMER, L. (Inventor). Coffee percolator. Ger. patent 743 944, Sep 15, 1944. Application C 53 761 I/34 1 dated Aug 19, 1934. In German. 1.50
Drawings.

37-39 PB L 70432 I.G. FARBENINDUSTRIE A.G., FRANKFURT, A.M. Method for production of waterproof films, impregnations, etc., from polymers insoluble in water, and stable at room temperatures containing a small amount of hydrophile groups. Ger. patent 743 945, Jan 6, 1944. Application I 67 187 IVc/39b dated Jun 13, 1940. Inventors: Fikentscher, H. and Gäth, R. In German. 1.50

40-43 PB L 70432 CHRONOS-WERK REUTHER & REISERT, K.G., HENNEF. Counter for automatic scales. Ger. patent 743 946, Jan 7, 1944. Application C 55 397 IXb/42f dated Sep 12, 1939. Inventors: Richarz, P. and Hovenbitzer, M. In German. 1.50
Drawings.

44-47 PB L 70432 WALTHER, CARL, WAFFENFABRIK, ZELLA-MEHLIS. Calculating machine with semi-automatic multiplication. Ger. patent 743 947, Jan 8, 1944. Application W 105 541 IXb/42m dated Apr 25, 1939. In German. 1.50
Drawings.

48-49 PB L 70432 KEMPE, F. (Inventor). Device to detect corrosion of insulated pipelines, especially in refrigeration plants. Ger. patent 743 948, Jan 6, 1944. Application K 160 273 IXb/43a dated Feb 22, 1941. In German. 1.50
Drawing.

50-51 PB L 70432 GEBR. RÖBER G.M.B.H., WUTHA. Seed pickling machine. Ger. patent 743 949, Jan 6, 1944. Application R 104 650 III/45b dated Mar 3, 1939. Inventor: Röber, P. In German. 1.50
Drawings.

52-53 PB L 70432 HEINKEL, ERNST, WARNEMÜNDE. Turbocompressor for internal combustion engines. Ger. patent 743 950, Jan 7, 1944. Application H 163 447 Ia/46a9 dated Oct 18, 1940. Inventor: Karde, K. In German. 1.50
Drawing.

54-55 PB L 70432 BOSCH, ROBERT, G.M.B.H., STUTTGART. Fully screened spark plug. Ger. patent 743 951, Jan 6, 1944. Application B 189 914 Ia/46c3 dated Feb 23, 1940. Inventors: Beesch, O. and Klemm, E. In German. 1.50

56-57 PB L 70432 HEINKEL, ERNST, FLUGZEUGWERKE, G.M.B.H., SEESTADT. Flap control rods for cowling of air-cooled aircraft engines, radiator shutters, etc. Ger. patent 743 952, Jan 6, 1944. Application H 158 621 Ia/46c4 dated Feb 11, 1939. Inventor: Göpel, E. In German. 1.50

58-60 PB L 70432 METZGER, KARL, LUDWIGSBURG. Method and apparatus for removal of exhaust gases from O2-supplied internal combustion submarine engines. Ger. patent 743 953, Jan 6, 1944. Application M 150 390 IVb/46c6 dated Mar 29, 1941. Inventor: Schweizer, R. In German. 1.50

61-64 PB L 70432 HÄHNLE, H. (Inventor). Method for achieving effective power ratios. Ger. patent 743 954, Jan 7, 1944. Application H 131 481 Ia/46d dated Apr 20, 1932. In German. 1.50
Supplement to patent 730 631.
Drawing.

65-67 PB L 70432 HIRSCHMANN, M. (Inventor). Yield of gold and gold alloy precipitates from continuous baths. Ger. patent 743 955, Jan 6, 1944. Application H 163 237 VIa/48a dated Sep 21, 1940. In German. 1.50

68-72 ALLGEMEINE ELECTRICITÄTS GES.,

PB L 70432 BERLIN. Control for shell-end milling machines. Ger. patent 743 957, Jan 6, 1944. Application L 100 776 Ib/49b dated May 9, 1940. Inventor: Schmid, W. In German. 1.50
Supplement to patent 738 284. Wiring diagrams.

73-75 PB L 70432 BERTHOLD, K. (Inventor). Process for the manufacture of perforated metal objects (such as costume jewelry). Ger. patent 743 958, Jan 6, 1944. Application B 182 007 Ib/49 l dated Feb 15, 1938. In German. 1.50

75-77 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Equipment for checking camera shutters and synchronous devices for flashlight attachments. Ger. patent 743 959, Jan 7, 1944. Application L 103 857 IXa/57a dated Apr 6, 1941. Inventor: Kearsly, W. In German. 1.50

78-80 PB L 70432 HENSCHEL FLUGZEUG-WERKE A.G., SCHÖNEFELD. Crank-type swivel gun mount for rapid fire aircraft guns. Ger. patent 743 960, Jan 6, 1944. Application H 152 308 XI/62b dated Jul 13, 1937. Inventors: Borchert, F. and Saalfeld, E. In German. 1.50

81-83 PB L 70432 ANWANDER, C. (Inventor). Three-sided tipping device for truck bodies. Ger. patent 743 961, Jan 6, 1944. Application A 93 993 II/63c dated Aug 26, 1941. In German. 1.50
Drawings.

84-86 PB L 70432 KEMNA WERKE, KETTEN, DRAHT, UND DRAHTSTIFTWERKE PFLEIDERER, AALEN. Nonskid device for caterpillar tracks. Ger. patent 743 962, Jan 8, 1944. Application K 160 968 II/63d dated May 1, 1941. Inventor: Hengst, A. In German. 1.50

87-88 PB L 70432 TELEFUNKEN GES. FÜR DRAHTLOSE TELEGRAPHIE M.B.H., BERLIN. Circuit for producing a signal such as an airraid warning signal, with ascending and descending tone, by means of a grid-controlled gas tube. Ger. patent 743 963, Jan 6, 1944. Application T 49 947 VIIIb/74d dated Feb 10, 1938. Inventor: Eichelberg, E. In German. 1.50
Supplement to patent 718 269. Wiring diagrams.

89-91 PB L 70432 KLUFTINGER, H. (Inventor). Tape drawing frame with a roll for pressing the tape forming an arc of contact. Ger. patent 743 964, Aug 6, 1944. Application K 160 931 VII/76c dated Apr 27, 1941. In German. 1.50
Drawings.

92-93 PB L 70432 GMINDER, ULRICH, G.M.B.H. Wet process for fine spinning. Ger. patent 743 965, Jan 6, 1944. Application G 103 401 VII/76c dated Apr 23, 1941. Inventor: Gminder, E. In German. 1.50
Supplement to patent 737 706.

94-95 PB L 70432 KOY, E. (Inventor). Counterweights for cranes, elevators, etc. Ger. patent 743 966, Jan 6, 1944. Application K 159 114 VIb/80b dated Oct 27, 1940. In German. 1.50

96-98 PB L 70432 I.G. FARBENINDUSTRIE A.G., FRANKFURT, A.M. Production of dinitriles. Ger. patent 743 967, Jan 18, 1944. Application P 79 817 IVd/12o dated Sep 28, 1939. In German. 1.50

99-100 PB L 70432 KNORR BREMSE A.G., STAHLWERKE, VOLMARSTEIN. Train axle bearing for constant circulation. Ger. patent 743 968, Jan 6, 1944. Application E 50 094 II/20d dated Dec 9, 1931. In German. 1.50
Drawings.

101-103 PB L 70432 ALLGEMEINE ELEKTRICITÄTS, GES., BERLIN. Circuit breaker with arc extinction. Ger. patent 743 969, Jan 6, 1944. Application L 98 296 VIIIb/21c dated Jun 24, 1939. Inventor: Petermichl, F. In German. 1.50
Supplement to patent 730 505. Drawings.

104-105 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Circuit breaker with arc extinction. Ger. patent 743 970, Jan 6, 1944. Application L 98 298 VIIIb/21c dated Jun 24, 1939. Inventor: Petermichl, F. In German. 1.50
Supplement to patent 730 505. Drawings.

106-107 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Circuit breaker with arc extinction. Ger. patent 743 971, Jan 6, 1944. Application L 98 299 VIIIb/21c dated Jun 24, 1939. Inventor: Petermichl, F. In German. 1.50
Supplement to patent 730 505. Drawings.

108-109 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Circuit breaker with arc extinction. Ger. patent 743 972, Jan 6, 1944. Application L 98 308 VIIIb/21c dated Jun 25, 1939. Inventor: Petermichl, F. In German. 1.50
Supplement to patent 730 505. Drawings.

110-112 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Circuit breaker with arc extinction. Ger. patent 743 973, Jan 6, 1944. Application L 98 311 VIIIb/21c dated Jun 25, 1939. Inventor: Petermichl, F. In German. 1.50
Supplement to patent 730 505. Drawings.

113 PB L 70432 FUCHS, A. (Inventor). Moth preventative. Ger. patent 743 974, Jan 6, 1944. Application F 89 771 IVa/45 l dated Oct 12, 1940. In German. 1.50
Supplement to patent 731 339.

114-116 PB L 70432 VERLAG FÜR PARAGRAPHENDIENST, VELDER & CO., BERLIN. Loose-leaf form for reference purposes. Ger. patent 743 975, Jan 6, 1944. Application V 33 868 VII/54b dated May 28, 1937. Inventor: Velder, K. In German. 1.50

117-118 PB L 70432 STAEDLER, J.S., CO., NÜRNBERG. Surface treatment for wooden pencils. Ger. patent 743 976, Jan 6, 1944. Application St 61 274 IVd/75c dated Nov 25, 1941. Inventor: Loy, G. In German. 1.50
Supplement to patent 726 617.

119-121 PB L 70432 GESELLSCHAFT FÜR FÖRDERANLAGEN, ERNST HECKEL G.M.B.H., SAARBRÜCKEN. Process for dressing coal and simi-

lar materials in an easily separated heavy sludge. Ger. patent 743 977, Nov 16, 1944. Application G 98 490 VIb/1c dated Aug 20, 1938. Inventor: Trümpelmann, E. In German. 1.50

122-124 PB L 70432 LORO & PARISINI, MILAN, ITALY. Agitator for scum floating machine. Ger. patent 743 978, Jan 6, 1944. Application L 104 263 VIb/1c dated May 15, 1941. In German. 1.50 Drawings.

125-128 PB L 70432 KÄUFLEIN, F. (Inventor). Single-handed double valve for welding torches and gas blowpipes. Ger. patent 743 979, Jan 6, 1944. Application K 158 950 VIb/4g dated Oct 15, 1940. In German. 1.50 Drawings.

129-131 PB L 70432 GEBR. EICKHOFF MASCHINENFABRIK UND EISENGIESSEREI, BOCHUM. Machine for cutting mine tunnels, particularly for drainage purposes. Ger. patent 743 980, Jan 6, 1944. Application E 52 636 VIb/5b dated Jun 7, 1939. Inventor: Vorthmann, F. In German. 1.50 Drawings.

132-133 PB L 70432 F.W. MOLL SÖHNE, WITTEN. Iron mine-construction. Ger. patent 743 981, Jan 6, 1944. Application M 144 547 VIb/5c dated Mar 17, 1939. In German. 1.50 Drawings.

134-135 PB L 70432 MANNESMANNRÖHREN-WERKE, DÜSSELDORF. Mine ventilation equipment with provision for drawing off mountain heat. Ger. patent 743 982, Jan 6, 1944. Application M 149 651 VIb/5d dated Jan 15, 1941. Inventor: Tenthoff, W. In German. 1.50 Drawings.

136-138 PB L 70432 VON HIPPEL, H. (Inventor). Conveyor method for coal or ores. Ger. patent 743 983, Jan 6, 1944. Application H 165 117 VIb/5d dated Apr 17, 1941. In German. 1.50

139-141 PB L 70432 STICH, E. (Inventor). Process and equipment for ventilating fermenting liquids. Ger. patent 743 984, Jan 6, 1944. Application St 57 861 IVa/6a dated Sep 16, 1938. In German. 1.50 Drawing.

142-143 PB L 70432 I.G. FARBENINDUSTRIE A.G., FRANKFURT, A.M. Substitutes for antifoaming agents. Ger. patent 743 985, Jan 6, 1944. Application I 70 458 IVa/6a dated Sep 17, 1941. Inventors: Brodersen, K. and Quaedvlieg, M. In German. 1.50

144-145 PB L 70432 CHEMISCHE FABRIK PROMONTA G.M.B.H., HAMBURG. Process for recovery of protoeolytic enzymes from urine. Ger. patent 743 986, Jan 11, 1944. Application C 56 821 IVa/6a dated Oct 11, 1941. In German. 1.50

146-148 PB L 70432 CRAMER, H. (Inventor). Combination tilting and parallel lifting table for rolling mills. Ger. patent 743 987, Jan 6, 1944. Application C 55 744 Ib/7a dated Apr 12, 1940. In German. 1.50

149-151 PB L 70432 PAPST, ZUNST, CO., AUE. Spindle for wet yarn winding. Ger. patent 743 988, Jan 6, 1944. Application P 77 037 VII/8a dated Mar 26, 1938. In German. 1.50 Drawings.

152-153 PB L 70432 RASMUSSEN, C. (Inventor). Spinner type washing machine. Ger. patent 743 989, Jan 6, 1944. Application R 105 780 VII/8d dated Aug 5, 1939. In German. 1.50 Drawing.

154-155 PB L 70432 STENVERS, F. (Inventor). Piston-operated washing machine. Ger. patent 743 990, Jan 6, 1944. Application St 56 590 VII/8d dated Sep 11, 1937. In German. 1.50 Drawings.

156-157 PB L 70432 DAHLMANN, EUGEN, DUSSELDORF. Trough for ironer with heating channels. Ger. patent 743 991, Jan 6, 1944. Application D 80 282 VII/8d dated Apr 19, 1939. Inventor: Schwamm, K. In German. 1.50 Drawings.

158-160 PB L 70432 HEBERLEIN & CO., A.G., WATTWIL, SWITZERLAND. Process for printing designs on fabrics of cellulose fibers with organic dyes insoluble in water, by parchmentizing the printed portions. Ger. patent 743 983, Jan 6, 1944. Application H 156 354 IVd/8n dated Jul 2, 1938. Inventors: Weiss, E. and Lorenz, F. In German. 1.50

161-162 PB L 70432 I.G. FARBENINDUSTRIE A.G., FRANKFURT, A.M. Process for dyeing cellulose fibers in the form of piece goods, etc., with sulfur dyes. Ger. patent 743 992, Jan 11, 1944. Application I 65 481 IVd/8m dated Aug 18, 1939. Inventors: Hansen, H. and Pässler, W. In German. 1.50

163-166 PB L 70432 BAYERISCHE STICKSTOFF WERKE A.G., BERLIN. Process and equipment for cooling and crushing fusible calcium carbide. Ger. patent 743 994, Jan 6, 1944. Application B 199 328 IVb/12i dated Aug 23, 1942. Inventors: Wotschke, J. and Steinbrück, G. In German. 1.50 Drawings.

167-168 PB L 70432 STEINKOHLENBERGWERKE "RHEINPREUSSEN," HOMBERG. Process for increasing the purity of the gas used in the Fischer-Tropsch process. Ger. patent 743 995, Jan 6, 1944. Application St 57 247 IVd/12o dated Mar 17, 1938. In German. 1.50

169-170 PB L 70432 CHEMISCHE FABRIK R. BAUMHEIER K.G., OSCHATZ. Method for producing substances active in lowering surface tension from pyridine. Ger. patent 743 996, Jan 6, 1944. Application C 53 609 IVc/12p dated Jan 25, 1938. Inventor: Schiedewitz, H. In German. 1.50

171-172 PB L 70432 GÖDL, S. (Inventor). Charging device for oven chambers. Ger. patent 743 997, Jan 6, 1944. Application G 105 841 VIa/18c dated Aug 1, 1942. In German. 1.50 Supplement to patent 740 417. Drawings.

173-176 PB L 70432 SIEMENS SCHUCKERTWERKE A.G., BERLIN. Trolley wire arrangement for electric railways. Ger. patent 743 998, Jan 7, 1944. Application S 132 934 VIId/20k dated Jul 10, 1938. In-

ventors: Mahlberg, N. and Crouse, J. In German. 1.50
Drawings.

177-179 PB L 70432 — SIEMENS SCHUCKERTWERKE A.G., BERLIN. Separators for trolley wires for electric railways. Ger. patent 743 999, Jan 7, 1944. Application S 144 875 VIIId/20k dated Apr 11, 1941. Inventor: Arns, H. In German. 1.50
Drawings.

180-181 PB L 70432 — SIEMENS SCHUCKERTWERKE A.G., BERLIN. Control for electric trains. Ger. patent 744 000, Jan 7, 1944. Application S 149 931 dated Apr 16, 1942. Inventors: Vogel, C. and Ulrich, F. In German. 1.50
Supplement to patent 728 230.
Wiring diagram.

182-183 PB L 70432 — LÜTGERDING, G. (Inventor). Base for ointments. Ger. patent 743 601, Dec 29, 1943. Application L 109 363 IVa/30h dated Oct 25, 1942. In German. 1.50

184-185 PB L 70432 — RASCHIG, F., G.M.B.H., LUDWIGSHAFEN. Binding materials for foundry molds. Ger. patent 743 602, Dec 29, 1943. Application R 112 277 VIa/31c dated Feb 26, 1942. Inventors: Dreher, E. and Hummel, F. In German. 1.50

186-187 PB L 70432 — WIELAND WERKE A.G., ULM. Die for extrusion casting of pipes. Ger. patent 743 603, Dec 29, 1943. Application W 111 710 VIa/31c dated Sep 25, 1942. Inventor: Schwarzmaier, W. In German. 1.50
Drawings.

188-189 PB L 70432 — FRANZEN, P. (Inventor). Ornamental flower pot covering. Ger. patent 743 604, Dec 29, 1943. Application F 89 701 X/34f dated Mar 25, 1941. In German. 1.50
Drawing.

190-191 PB L 70432 — BATA A.G., ZLIN, CZECHOSLOVAKIA. Production of synthetic rubber from polymers of butadiene. Ger. patent 743 605, Dec 29, 1943. Application B 194 520 IVc/39b dated Jun 6, 1941. Inventor: Cech, J. In German. 1.50

192-193 PB L 70432 — SIEMENS SCHUCKERTWERKE A.G., BERLIN. Process for coating wire, thread, etc., with highly polymeric polystyrol. Ger. patent 743 607, Dec 1, 1943. Application S 127 859 IVc/39b dated Jun 26, 1937. Inventor: Müller, H. In German. 1.50
Drawing.

194-195 PB L 70432 — KREIDORN, W. (Inventor). Dental alloys. Ger. patent 743 608, Jan 4, 1944. Application K 158 291 VIc/40b dated Aug 1, 1940. In German. 1.50

196-198 PB L 70432 — FORSTER, A. (Inventor). Mechanical surface testing device. Ger. patent 743 609, Dec 29, 1943. Application F 90 787 IXb/42b dated Nov 8, 1941. In German. 1.50
Supplement to patent 740 781.
Drawings.

199-200 PB L 70432 — KERSTING, W. (Inventor). Tendency indicator for instruments. Ger. patent 743 610, Dec 29, 1943. Application K 151 949 IXb/42d dated Sep 25, 1938. In German. 1.50
Drawings.

201-202 PB L 70432 — SIEMENS & HALSKE A.G., BERLIN. Wide range ring manometer. Ger. patent 743 611, Dec 31, 1943. Application S 147 285 IXb/42k dated Oct 15, 1941. In German. 1.50
Drawings.

203-204 PB L 70432 — HILDEBRANDT, F. and VIEWEG, R. (Inventors). Temperature-compensated electric resistance manometer. Ger. patent 743 612, Dec 31, 1943. Application H 161 618 IXb/42k dated Feb 17, 1940. In German. 1.50

205-206 PB L 70432 — UHDE, FRIEDRICH, DORTMUND. Device for measuring high gas or fluid pressures. Ger. patent 743 613, Dec 29, 1943. Application U 14 118 IXb/42k dated Dec 14, 1937. Inventors: Hoffmann, O. and Francke, W. In German. 1.50
Drawing.

207-210 PB L 70432 — BECK, E. (Inventor). Device for automatic indication of the production of two or more machine tools attended by a single operator. Ger. patent 743 614, Dec 29, 1943. Application B 196 524 IXb/42m dated Dec 19, 1941. In German. 1.50
Drawings.

211-213 PB L 70432 — TRAWINSKI, H. (Inventor). Air speed indicator. Ger. patent 743 615, Dec 30, 1943. Application T 56 082 IXb/42o dated Aug 19, 1941. In German. 1.50
Wiring diagram.

214-215 PB L 70432 — LIMBACH, R. (Inventor). Apparatus for producing mechanical vibrations. Ger. patent 743 616, Dec 30, 1943. Application L 105 171 IXb/42s dated Aug 22, 1941. In German. 1.50

216-218 PB L 70432 — MIKSCHE, F. (Inventor). Opposed piston engine. Ger. patent 743 617, Dec 30, 1943. Application M 155 039 Ia/46a10 dated Aug 11, 1942. In German. 1.50
Drawings.

219-222 PB L 70432 — AEROPLANI CAPRONI SOCIETA ANONIMA and OTTAVIO FUSCALDO, MILAN, ITALY. Fuel injection regulator for internal combustion engines. Ger. patent 743 618, Jan 3, 1944. Application A 87 359 Ia/46b2 dated Jul 2, 1938. Inventor: Fuscaldo, O. In German. 1.50
Drawings.

223-225 PB L 70432 — AEROPLANI CAPRONI SOCIETA ANONIMA and OTTAVIO FUSCALDO, MILAN, ITALY. Electromagnetic injection valve for internal combustion engines. Ger. patent 743 620, Dec 30, 1943. Application A 90 232 Ia/46c2 dated Sep 16, 1939. Inventor: Fuscaldo, O. In German. 1.50
Drawings.

226-229 PB L 70432 — BECORIT GESELLSCHAFT WILHELM BECKMANN & CO., and others. Lining for driving pulleys (of mine conveyors). Ger. patent 743 621, Dec 30, 1943. Application B 190 141 XII/47b dated Mar 14, 1940. Inventor: Uffelmann, E. In German. 1.50
Drawings.

230-232 PB L 70432 — SAUVEUR, H. (Inventor). Shutoff valve in which the spindle is sealed by a bellows-type diaphragm. Ger. patent 743 622, Dec 30, 1943.

Application S 140 218 XII/47g dated Feb 22, 1940. In German. 1.50
Drawing.

233-234 PB L 70432 ZEISS IKON A.G., DRESDEN. Portable sound motion picture projector. Ger. patent 743 623, Jun 10, 1944. Application Z 26 300 IXa/57a dated Mar 9, 1941. Inventor: Küppenbender, H. In German. 1.50
Drawing.

235-236 PB L 70432 I.G. FARBENINDUSTRIE A.G., FRANKFURT A.M. Copper plate printing process. Ger. patent 743 624, Dec 30, 1943. Application I 71 080 IVa/57b dated Dec 12, 1941. Inventor: Weyde, E. In German. 1.50

237-239 PB L 70432 RISZDORFER, O. (Inventor). Exposure meter for a photographic enlarger. Ger. patent 743 627, Dec 30, 1943. Application R 98 367 IXa/57c dated Mar 15, 1935. In German. 1.50
Drawings.

240-241 PB L 70432 OCHSMANN, E. (Inventor). Baby-carriage with a rocking body. Ger. patent 743 628, Dec 30, 1943. Application O 25 502 II/63b dated Jun 25, 1942. In German. 1.50
Drawings.

242-244 PB L 70432 IMBERT GENERATOREN G.M.B.H., COLOGNE. Purifier for automotive wood-gas producers. Ger. patent 743 629, Dec 30, 1943. Application I 68 556 II63c dated Dec 24, 1940. Inventors: Müller, R. and Buscher, H. In German. 1.50
Drawings.

245-247 PB L 70432 RHEINMETALL-BORSIG A.G., BERLIN. Self locking automotive differential gears. Ger. patent 743 630, Nov 17, 1944. Application R 110 016 II/63c dated May 8, 1941. Inventors: Berkenkemper, T. and Freyler, A. In German. 1.50
Drawings.

248-251 PB L 70432 DEUTSCHE WERKE KIEL A.G., KIEL. Pneumatic gear shift for automotive transmissions. Ger. patent 743 631, Dec 30, 1943. Application D 80 264 II/63c dated Apr 18, 1939. Inventors: Lüthje, F. and Ehreus, K. In German. 1.50
Drawings.

252-253 PB L 70432 AUTO UNION A.G., CHEMNITZ. Automotive shock absorption system. Ger. patent 743 632, Aug 23, 1944. Application A 95 232 II/63c dated Mar 10, 1942. Inventor: Boxan, W. In German. 1.50
Drawings.

254-256 PB L 70432 RÖBIG, A. (Inventor). Joint for automotive tie rods and steering rods. Ger. patent 743 633, Dec 30, 1943. Application R 113 750 dated Aug 13, 1942. In German. 1.50
Drawings.

257-258 PB L 70432 TEVES, ALFRED, MASCHINEN UND ARMATURENFABRIK K.G., FRANKFURT A.M. Hydraulic fluid container for automotive brakes. Ger. patent 743 635, Jan 17, 1944. Application T 58 709 II/63c dated Feb 12, 1943. Inventor: Huhn, M. In German. 1.50

259-260 PB L 70432 VOGEL, L. (Inventor). Dashboard-installed hydraulic fluid container for automotive brakes. Ger. patent 743 636, Dec 30, 1943. Application V 39 316 II/63c dated Nov 4, 1942. In German. 1.50
Drawings.

261-262 PB L 70432 WESTFÄLISCHE METALL INDUSTRIE, A.G., LIPPSTADT. Warning signal mounted on the roof of a motor vehicle to indicate the presence of trailers. Ger. patent 743 637, Dec 30, 1943. Application W 110 364 II/63c dated Jan 30, 1942. Inventor: Schroiff, F. In German. 1.50
Drawings.

263-264 PB L 70432 HORNKOHL, THEODOR, METALLWARENFABRIK, BREMEN. Gasoline-type automotive heater. Ger. patent 743 638, Dec 30, 1943. Application H 164 652 II/63c dated Feb 21, 1941. Inventor: Wolf, H. In German. 1.50
Drawing.

265-266 PB L 70432 KOENIG-FACHSENFELD, R. (Inventor). Air-conditioning system for motor vehicles. Ger. patent 743 639, Dec 30, 1943. Application K 158 649 dated Sep 10, 1940. In German. 1.50
Drawings.

267-269 PB L 70432 HASLER, D. (Inventor). Automobile fuel tank. Ger. patent 743 640, Dec 2, 1944. Application H 167 805 II/63c dated Mar 14, 1942. In German. 1.50
Drawings.

270-272 PB L 70432 KUPFER-ASBEST CO., GUSTAVE BACH, HEILBRONN. Ball and socket-type mount for rear view mirrors, spotlights, etc., on motor vehicles. Ger. patent 743 641, Dec 30, 1943. Application K 163 152 II/63c dated Dec 21, 1941. Inventor: Gutmann, H. In German. 1.50
Drawing.

273-274 PB L 70432 REICHSTEIN, C. (Inventor). Spring-type automobile tire. Ger. patent 743 642, Dec 30, 1943. Application R 112 651 II/63e dated Apr 11, 1942. In German. 1.50
Drawings.

275-277 PB L 70432 FICHTEL & SACHS A.G., SCHWEINFURT. Disengaging lever for trip locking mechanisms (for bicycles with three speeds). Ger. patent 743 644, Jan 21, 1944. Application F 93 743 II/63k dated Jul 30, 1943. Inventor: Dotter, P. In German. 1.50
Drawings.

278-280 PB L 70432 FICHTEL & SACHS A.G., SCHWEINFURT. Device on foot-operated three speed transmissions to prevent bypassing second gear (for motorcycles). Ger. patent 743 645, Dec 30, 1943. Application F 92 263 II/63k dated Aug 7, 1942. Inventor: Steinlein, G. In German. 1.50
Drawings.

281-282 PB L 70432 WERNER, FRITZ, BERLIN. Grinding wheel for backing off grooved work pieces, especially form cutters and thread mills. Ger. patent 743 646, Feb 25, 1944. Application W 111 485 XII/67a dated Aug 13, 1942. Inventors: Bornmüller, F. and Möller, G. In German. 1.50
Drawings.

283-286 PB L 70432 RZEZACZ, P. (Inventor). Process and equipment for dressing minerals by means of a heavy sludge. Ger. patent 743 647, Aug 28, 1944. Appli-

cation R 101 919 VIb/1c dated Mar 24, 1938. In German. 1.50
Drawings.

287-289 PB L 70432 — GERR. EICKHOFF MASCHINENFABRIK U. EISENGIESSEREI, BOCHUM. Coal cutting machine. Ger. patent 743 648, Dec 30, 1943. Application E 54 147 VIb/5b dated Nov 9, 1940. Inventor: Zapp, E. In German. 1.50
Drawings.

290-291 PB L 70432 — RHEINMETALL-BORSIG A.G., BERLIN. Development of the ascending pipe of steam generators. Ger. patent 743 649, Dec 30, 1943. Application R 107 189 X/13a dated Mar 20, 1940. Inventor: Meier, W. In German. 1.50

292-293 PB L 70432 — DEUTSCHE BABCOCK & WILCOX, DAMPFKESSEL-WERKE A.G., OBERHAUSEN. Water tube boiler. Ger. patent 743 650, Dec 30, 1943. Application D 84 445 X/13a dated Feb 22, 1941. Inventor: Brunn, J. In German. 1.50
Drawing.

294-295 PB L 70432 — DEUTSCHE BABCOCK & WILCOX, DAMPFKESSEL-WERKE A.G., OBERHAUSEN. Radiation boiler. Ger. patent 743 651, Dec 30, 1943. Application D 89 566 X/13a dated Dec 23, 1942. Inventor: Adolf, A. In German. 1.50
Drawings.

296-298 PB L 70432 — ANSALDO S.A., GENOA, ITALY. Feedwater regulator with vaporization and condensation of a controlling liquid. Ger. patent 743 652, Dec 30, 1943. Application A 90 689 X/13b dated Jan 3, 1940. Inventor: Cortese, C. In German. 1.50

299-301 PB L 70432 — LENTZ, H. (Inventor). Rotary head for fire-tube superheater. Ger. patent 743 653, Oct 2, 1944. Application L 108 425 X/13d dated Jul 14, 1942. In German. 1.50
Drawings.

302-303 PB L 70432 — DEUTSCHE BABCOCK & WILCOX, DAMPFKESSEL-WERKE A.G., OBERHAUSEN. Superheater suspension for sectional-header boilers. Ger. patent 743 654, Dec 30, 1944. Application D 86 637 X/13d dated Dec 25, 1941. Inventor: Bollwerk, H. In German. 1.50
Drawings.

304-305 PB L 70432 — L. & C. STEINMÜLLER, GUMMERSBACH. Water separator for steam boilers. Ger. patent 743 655, Dec 30, 1943. Application St 59 976 X/13d dated Aug 22, 1940. Inventor: Fuchs, H. In German. 1.50
Drawings.

306-308 PB L 70432 — MARTIN, O. (Inventor). Locomotive steam generator with indirect heating. Ger. patent 743 656, Dec 30, 1943. Application M 151 251 X/13g dated Jul 1, 1941. In German. 1.50
Drawings.

309-311 PB L 70432 — BEUTHNER, K. (Inventor). Vertical chamber furnace for coal distillation. Ger. patent 743 657, Dec 30, 1943. Application B 191 454 dated Aug 11, 1940. In German. 1.50
Supplement to patent 740 510.
Drawings.

312-315 PB L 70432 — HYDRO NITRO S.A. U. MIECZYSLAW, JOSEF KALOUS, GENEVA, SWITZERLAND. Apparatus for conversion of nitrous gases of ammonia combustion to nitric acid. Ger. patent 743 658, Dec 30, 1943. Application N 42 157 IVb/12i dated Jun 29, 1938. Inventor: Kalous, M. In German. 1.50
Drawings.

316-317 PB L 70432 — I.G. FARBENINDUSTRIE A.G., FRANKFURT, A.M. Production of N-substituted aminocarboxylic acids. Ger. patent 743 661, Jan 4, 1944. Application I 66 925 IVc/12q dated Apr 27, 1940. Inventors: Krzikalla, H. and Alt, W. In German. 1.50

318-319 PB L 70432 — SABALITSCHKA, THEODOR, U. NÄHRMITTELFABRIK JULIUS PENNER A.G., BERLIN. Process for improving the water solubility of esters of p- or m-hydroxybenzoic acid. Ger. patent 743 662, Dec 30, 1943. Application S 148 316 IVc/12q dated Dec 31, 1941. Inventors: Sabalitschka, T. and Durczin, A. In German. 1.50

320-322 PB L 70432 — DREIER, E. (Inventor). Hand-brake for narrow-gauge railway cars. Ger. patent 743 663, Dec 30, 1943. Application D 84 933 II/20f dated Feb 27, 1941. In German. 1.50
Drawings.

323-325 PB L 70432 — LÖFFLER, P. (Inventor). Device for blocking a railway car on a turntable, traveling platform, or on elevators. Ger. patent 743 664, Dec 30, 1943. Application L 106 008 II/20g dated Nov 21, 1941. In German. 1.50
Drawings.

326-327 PB L 70432 — LORENZ, C., A.G., BERLIN. Electromagnetic recording device for phototelegraphy. Ger. patent 743 666, Dec 31, 1943. Application L 108 396 VIIIa/21a$^1$ dated Jul 10, 1942. Inventor: Wegener, G. In German. 1.50
Drawing.

328-330 PB L 70432 — FERNSEH G.M.B.H., BERLIN. Scanning device for television transmission. Ger. patent 743 667, Dec 30, 1943. Application F 82 842 VIIIa/21a$^1$ dated Apr 13, 1937. In German. 1.50
Drawings.

331-333 PB L 70432 — ELECTRICAL FONO-FILMS CO., A/S, COPENHAGEN, DENMARK. Amplitude limiter control. Ger. patent 743 668, Dec 30, 1943. Application E 53 745 VIIIa/21a$^2$ dated Jun 20, 1940. Inventor: Schlegel, K. In German. 1.50
Wiring diagrams.

334-336 PB L 70432 — TELEFUNKEN GES. FÜR DRAHTLOSE, TELEGRAPHIE M.B.H., BERLIN. Adapter for transition from balanced to unbalanced high frequency grounding. Ger. patent 743 669, Dec 30, 1943. Application T 56 137 VIIIa/21a$^4$ dated Sep 3, 1941. Inventor: Buschbeck, A. In German. 1.50
Drawings.

337-339 PB L 70432 — ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Magnet core for choke coils of commutators. Ger. patent 743 670, Dec 30, 1943. Application L 102 660 VIIId/21a$^2$ dated Dec 8, 1940. Inventors: Sixtus, K. and Koppelmann, F. In German. 1.50
Drawings.

340-343 PB L 70432 — HANS-BODO WILLERS. Magnetic control with D.C. premagnetized choke

coil. Ger. patent 743 671, Dec 30, 1943. Application K 138 694 VIIId/21d² dated Jul 23, 1935. In German. 1.50
Wiring diagrams.

344-346 PB L 70432 FISCHER, A. (Inventor). Wind driven generator. Ger. patent 743 672, Dec 30, 1943. Application F 88 084 VIIId/21d³ dated Mar 12, 1940. In German. 1.50
Drawing.

347-348 PB L 70432 I.G. FARBENINDUSTRIE A.G., FRANKFURT, A.M. Process for production of azo dyes. Ger. patent 743 673, Jan 11, 1944. Application I 56 603 IVd/22a dated Dec 13, 1936. Inventors: Schultis, C. and Korten, E. In German. 1.50
Supplement to patent 671 911.

349-350 PB L 70432 I.G. FARBENINDUSTRIE A.G., FRANKFURT, A.M. Process for production of vat dyes. Ger. patent 743 674, Dec 30, 1943. Application I 68 946 IVd/22b dated Feb 22, 1941. Inventor: Braun, #. In German. 1.50

351-352 PB L 70432 GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL, SWITZERLAND. Process for production of indigoid vat dyes. Ger. patent 743 675, Jan 6, 1944. Application G 96 525 IVd/22e dated Oct 26, 1937. Inventors: Fröhlich, J. and others. In German. 1.50

353-357 PB L 70432 GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL, SWITZERLAND. Process for production of quinhydrones. Ger. patent 743 676, Dec 30, 1943. Application G 98 953 IVd/22e dated Nov 15, 1938. Inventors: Kambli, E. and others. In German. 1.50

358-361 PB L 70432 GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL, SWITZERLAND. Process for production of vat dyes. Ger. patent 743 677, Dec 30, 1943. Application G 99 059 IVd/22e dated Dec 1, 1938. Inventors: Kern, W. and others. In German. 1.50

362-364 PB L 70432 GELSENKIRCHENER BERGWERKS, A.G., BOCHUM. Process for converting melted pitch into small-sized pieces. Ger. patent 743 678, May 30, 1944. Application G 104 040 IVc/22h dated Sep 6, 1941. Inventor: Speckhardt, G. In German. 1.50
Drawing.

365-367 PB L 70432 N.V. DE BATAAFSCHE PETROLEUM MAATSCHAPPIJ, THE HAGUE, HOLLAND. Process for separating azeotropic mixtures. Ger. patent 743 679, Dec 30, 1943. Application N 43 830 IVd/23b dated Feb 10, 1940. Inventors: Yabroff, D. and White, E. In German. 1.50
Drawing.

368-369 PB L 70432 KLÖCKNER HUMBOLDT DEUTZ A.G., COLOGNE. Shaped-brick masonry for conical fireboxes of gas producers. Ger. patent 743 680, Dec 30, 1943. Application K 163 823 V/24e dated Feb 27, 1942. Inventor: Wohlschläger, H. In German. 1.50
Drawings.

370-371 PB L 70432 KLÖCKNER HUMBOLDT DEUTZ A.G., COLOGNE. Shaped-brick masonry for conical fireboxes of automotive gas producers. Ger. patent 743 682, Aug 21, 1944. Application K 166 431 V/24e dated Sep 25, 1942.
Inventor: Wohlschläger, H. In German. 1.50
Drawings.

372-373 PB L 70432 KLÖCKNER HUMBOLDT DEUTZ A.G., COLOGNE. Automotive gas producer with down-draft carburetion. Ger. patent 743 683, Dec 30, 1943. Application K 159 622 V/24e dated Dec 22, 1940. Inventor: Keienburg, H. In German. 1.50
Drawing.

374-376 PB L 70432 DEUTSCHE BABCOCK & WILCOX, DAMPFKESSEL-WERKE A.G., OBERHAUSEN. Process for producing ignition powder for coal dust firing. Ger. patent 743 684, Dec 30, 1943. Application D 81 226 V/24 1 dated Sep 20, 1939. Inventor: Seidl, H. In German. 1.50
Drawings.

377-379 PB L 70432 DEUTSCHE BABCOCK & WILCOX, DAMPFKESSEL-WERKE A.G., OBERHAUSEN. Coal dust firing for radiation boilers. Ger. patent 743 685, Dec 30, 1943. Application D 83 162 V/24 1 dated Aug 18, 1940. Inventor: Kölling, J. In German. 1.50
Drawings.

380-381 PB L 70432 VEREINIGTE KESSELWERKE, A.G., DÜSSELDORF. Coal dust furnace. Ger. patent 743 686, Dec 30, 1943. Application V 36 263 V/24 1 dated Nov 1, 1939. Inventor: Piedboeuf, T. In German. 1.50
Drawing.

382-384 PB L 70432 STENTA, ERWIN, BERLIN U. FRATEMA G.M.B.H., GEYER. Apparatus for braiding thread. Ger. patent 743 687, Dec 30, 1943. Application S 135 336 VII/25c dated Dec 15, 1936. Inventor: Seim, C. In German. 1.50
Drawings.

385-386 PB L 70432 KURMÄRKISCHE ZELLWOLLE UND ZELLWOLLE A.G., WITTENBERGE and others. Process for purification of reviving solutions in rayon production. Ger. patent 743 688, Dec 30, 1943. Application P 82423 IVc/29b dated May 3, 1941. Inventors: Diehr, A. and Wotz, F. In German. 1.50

387-389 PB L 70432 KOLLER, E. (Inventor). Collapsible stretcher. Ger. patent 743 689, Dec 31, 1943. Application K 164 760, IXa/30e dated May 21, 1942. In German. 1.50
Drawings.

390-391 PB L 70432 KONZE, P. (Inventor). Spring attachment for caves. Ger. patent 743 690, Dec 31, 1943. Application K 163 580 IXa/30f dated Feb 5, 1942. In German. 1.50
Drawings.

392-394 PB L 70432 HILGERS, H. (Inventor). Massaging device. Ger. patent 743 691, Dec 31, 1943. Application H 160 043 IXa/30f dated Jul 7, 1939. In German. 1.50
Drawings.

395-397 PB L 70432 SCHENK, H. and SPRUNG, W. (Inventors). Electric steam pot for massage, shaving, and inhalation purposes. Ger. patent 743 692, Dec 31, 1943. Appli-

cation Sch 122 266 IXa/30f dated Apr 1, 1941. In German. 1.50
Drawings.

398-399 PB L 70432 ZEUZEM, J. (Inventor). Thermo drinking vessel. Ger. patent 743 693, Apr 19, 1944. Application Z 25 410 IXa/30g dated Aug 1, 1939. In German. 1.50
Drawing.

400-401 PB L 70432 RUSS ELEKTROOFEN K.A., COLOGNE. Low frequency induction furnace. Ger. patent 743 694, Dec 31, 1943. Application R 110 427 VIa/31a dated Jun 25, 1941. Inventor: Vierhaus, W. In German. 1.50
Drawings.

402-403 PB L 70432 LAUZ, HEINRICH, A.G., MANNHEIM. Apparatus for heating molds in flue gas. Ger. patent 743 695, Dec 31, 1943. Application L 104 345 VIa/31a dated May 20, 1941. Inventors: Tobias, P. and others. In German. 1.50
Drawings.

404-406 PB L 70432 HUNDT & WEBER G.M.B.H., GEISWEID. Method for operating foundry baking ovens. Ger. patent 743 696, Dec 31, 1943. Application H 165 016 VIa/31a dated Mar 29, 1941. Inventor: Salzer, W. In German. 1.50
Drawings.

407-408 PB L 70432 JOHANSEN, O. (Inventor). Process for casting metals difficult to fuse. Ger. patent 743 697, Dec 31, 1943. Application J 74 671 VIa/31c dated Jul 9, 1942. In German. 1.50

409-412 PB L 70432 KODAK A.G., BERLIN. Process for production of resin esters. Ger. patent 743 698, Jan 8, 1944. Application K 156 701 IVc/39b dated Feb 10, 1940. Inventors: McNally, J. and Van Dyke, R. In German. 1.50

413-416 PB L 70432 SOCIÉTÉ ANONYME DITE: USINES DECOUFLÉ and GASTON DEBAECKER., PARIS. Apparatus for weighing equal quantities of fibrous materials (such as tobacco). Ger. patent 743 699, Apr 25, 1944. Application S 135 281 IXb/42f dated Jan 4, 1939. Inventor: Debaecker, G. In German. 1.50
Drawings.

417-419 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Process for chronological reproduction of arbitrary sections of a sound track for control purposes. Ger. patent 743 700, Feb 25, 1944. Application A 62 402 IXa/42g dated Jun 21, 1931. In German. 1.50
Drawings.

420-421 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Electric brake control for multiple street cars. Ger. patent 744 001, Jan 7, 1944. Application L 104 556 VIIId/20 1 dated Jun 10, 1941. Inventor: Dozler, E. In German. 1.50
Wiring diagram.

422-423 PB L 70432 TELEFUNKEN GES., FÜR DRAHTLOSE, TELEGRAPHIE M.B.H., BERLIN. Amplifier or receiver with two parallel terminal amplifier stages. Ger. patent 744 002, Jan 7, 1944. Application T 48 606 VIIIa/21a[2] dated May 12, 1937. Inventor: Schairer, A. In German. 1.50
Wiring diagram.

424-426 PB L 70432 SIEMENS & HALSKE, A.G., BERLIN. Hookup for frequency group selector plugs in telephone systems. Ger. patent 744 003, Jan 7, 1944. Application S 143 129 VIIIa/21a[3] dated Nov 30, 1940. Inventor: Sobotta, K. In German. 1.50
Wiring diagram.

427-429 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Automatic switch control for power distribution stations. Ger. patent 744 004, Jan 7, 1944. Application L 95 977 VIIIb/21c dated Oct 27, 1938. Inventor: Anderson, A. In German. 1.50
Wiring diagram.

430-432 PB L 70432 FABRIK ELEKTR. STEUERAPPARATE, RUDOLF KNOTE, LEIPZIG. High voltage cut-out. Ger. patent 744 005, Jan 7, 1944. Application F 90 496 VIIIb/21c dated Sep 10, 1941. Inventor: Loos, P. In German. 1.50
Drawings.

433-435 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Circuit breaker for high voltage installations. Ger. patent 744 006, Jan 7, 1944. Application S 129 261 VIIIb/21c dated Oct 26, 1937. Inventor: Laszig, G. In German. 1.50
Drawing.

436-437 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Screw cap for electric fuses. Ger. patent 744 007, Jan 7, 1944. Application L 105 287 VIIIb/21c dated Sep 4, 1941. Inventor: Wehrle, C. In German. 1.50
Drawing.

438-440 PB L 70432 "ELIN" UND SCHORCH WERKE A.G., FÜR ELEKTRISCHE INDUSTRIE, BERLIN. Spark gap for excess voltage arrester. Ger. patent 744 008, Jan 7, 1944. Application E 55 301 VIIIb/21c dated Sep 21, 1941. Inventors: Mansinger, H. and Hochrainer, A. In German. 1.50
Drawings.

441-443 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Arrangement for improving the performance of contra-parallel connected insulated electrodes serving for protection against excess voltage. Ger. patent 744 009, Jan 7, 1944. Application L 96 373 VIIIb/21c dated Nov 27, 1938. Inventor: Hessenberg, K. In German. 1.50
Wiring diagrams.

444-445 PB L 70432 NIEMANN, H. (Inventor). Electric motor with planetary gear coaxially located on the shaft. Ger. patent 744 010, Jan 7, 1944. Application N 45 195 VIIIId/21d[1] dated Nov 11, 1941. In German. 1.50
Supplement to patent 722 820.
Drawings.

446-447 PB L 70432 PAPST, H. (Inventor). Indirectly heated hot cathode for vacuum tubes. Ger. patent 744 011, Jan 7, 1944. Application P 77 766 VIIIc/21g dated Aug 16, 1938. In German. 1.50

448-450 PB L 70432 SIEMENS & HALSKE A.G., BERLIN. Socket for vacuum tubes with electrostatically shielded leads. Ger. patent 744 012, Jan 7, 1944. Application S 136 072 VIIIc/21g dated Feb 28, 1939. Inventor: Espe, W. In German. 1.50
Drawing.

451-453 PB L 70432 SIEMENS & HALSKE A.G., BERLIN. Electrode mounting for a radio tube. Ger. patent 744 013, Jan 7, 1944. Application S 134 907 VIIIc/21g dated Dec 8, 1938. Inventor: Harmisch, M. In German. 1.50
Drawings.

454-455 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Production of carbon or graphite parts for radio tubes, especially short-wave tubes. Ger. patent 744 014, Jan 7, 1944. Application A 80 323 VIIIc/21g dated Aug 25, 1936. In German. 1.50

456-458 PB L 70432 PHILIPS PATENTVERWALTUNG G.M.B.H., BERLIN. Cathode ray tube with two electrodes perpendicular to each other and operated by asymmetrical deflecting voltage. Ger. patent 744 015, Jan 7, 1944. Application N 41 898 VIIIc/21g dated Apr 26, 1938. Inventors: de Gier, J. and Janssen, J. In German. 1.50
Drawing.

459-460 PB L 70432 PATENT-TREUHAND GES. FÜR ELEKTRISCHE GLÜHLAMPEN M.B.H., BERLIN. Process for production of photoelectric resistance cells. Ger. patent 744 016, Jan 7, 1944. Application P 81 016 VIIIc/21g dated Jul 20, 1940. Inventor: Frerichs, R. In German. 1.50

461-462 PB L 70432 I.G. FARBENINDUSTRIE A.G., FRANKFURT A.M. Process for production of monoazo dyes. Ger. patent 744 017, Jan 11, 1944. Application I 66 056 IVd/22a dated Nov 30, 1939. Inventors: Zerweck, W. and Kunze, W. In German. 1.50

463-464 PB L 70432 I.G. FARBENINDUSTRIE A.G., FRANKFURT A.M. Process for production of diazo dyes. Ger. patent 744 018, Jan 11, 1944. Application I 67 368 IVd/22a dated Jul 10, 1940. Inventors: Petersen, S. and Taube, K. In German. 1.50

465-466 PB L 70432 I.G. FARBENINDUSTRIE A.G., FRANKFURT A.M. Process for production of violet to blue basic water-soluble dyes. Ger. patent 744 019, Jan 11, 1944. Application I 66 032 IVd/22e dated Nov 28, 1939. Inventors: Eistert, B. and Kochendoerfer, G. In German. 1.50

467-468 PB L 70432 CHEMISCHE-WERKE BÖHME & LORENZ, CHEMNITZ. Process for production of paint colors. Ger. patent 744020, Jan 7, 1944. Application C 55 572 IVc/22g dated Jan 3, 1940. Inventor: Pfanner, J. In German. 1.50

469-470 PB L 70432 ROGALL, A. (Inventor). Process for manufacture of a detergent. Ger. patent 744021, Jan 7, 1944. Application R 99 313 IVc/22g dated Jun 2, 1937. In German. 1.50

471-472 PB L 70432 TH. GOLDSCHMIDT A.G., ESSEN. Lubricant for use in wire-drawing. Ger. patent 744 022, Jan 7, 1944. Application G 103 792 IVd/23c dated Jul 9, 1941. Inventors: Schrader, H. and Havestadt, L. In German. 1.50

473-475 PB L 70432 TIMME, K. (Inventor). Degreasing process for skins, leather or furs. Ger. patent 744 023, Jan 7, 1944. Application T 55 929 VII/28b dated Jul 18, 1941. In German. 1.50
Drawings.

476-477 PB L 70432 HAMEL, CARL, A.G., SIEGMAR. Process for production of wool-like rayon thread. Ger. patent 744 024, Jan 7, 1944. Application H 153 213 VII/29a dated Oct 9, 1937. Inventor: Hamel, E. In German. 1.50
Drawing.

478-479 PB L 70432 KIENITZ, G. (Inventor). Process for production of spinnable fibers from chemically softened wood. Ger. patent 744 025, Nov 15, 1944. Application K 158 017 IVc/29b dated Jul 4, 1940. In German. 1.50

480-481 PB L 70432 VEREINIGTE GLANZSTOFF FABRIKEN A.G., WUPPERTAL. Process for finishing viscose rayon. Ger. patent 744 026, Jan 7, 1944. Application V 35 267 IVc/29b dated Sep 30, 1938. Inventor: Frohwein, H. In German. 1.50
Supplement to patent 625 355.
Drawing.

482-486 PB L 70432 MERK, H. (Inventor). Production method and equipment for vacuum filling of ampoules. Ger. patent 744 027, Jan 7, 1944. Application M 154 018 IXa/30g dated Apr 25, 1942. In German. 1.50
Drawings.

487-488 PB L 70432 I.G. FARBENINDUSTRIE A.G., FRANKFURT A.M. Disinfectant and preservative. Ger. patent 744 028, Jan 7, 1944. Application I 66 753 IVa/30i dated Mar 24, 1940. Inventors: Kuhn, R. and others. In German. 1.50

489-491 PB L 70432 METALLGUSSWERK, EDMUND NESTLER, DRESDEN. Device to prevent metal overflow from the inlet gate of tiltable molds. Ger. patent 744 029, Jan 7, 1944. Application M 152 189 VIa/31c dated Oct 23, 1941. In German. 1.50
Drawings.

492-495 PB L 70432 VEREINIGTE LEICHTMETALL-WERKE G.M.B.H., HANNOVER. Extrusion casting process for light-metal ingots. Ger. patent 744 030, Jan 7, 1944. Application V 35 788 VIa/31c dated Mar 23, 1939. Inventor: Brenner, P. In German. 1.50
Drawings.

496-497 PB L 70432 VEREINIGTE DEUTSCHE METALLWERKE A.G., FRANKFURT A.M. Process for production of multiple work pieces (welded together). Ger. patent 744 031, Jan 7, 1944.

Application V 36 160 VIa/31c dated Sep 1, 1939. Inventor: von Forster, H. In German. 1.50

498-499 PB L 70432 WAAGNER-BIRO A.G., VIENNA, AUSTRIA. Joining of wooden spars and structural iron sections, such as I-beams. Ger. patent 744 032, Jan 7, 1944. Application W 109 507 V/37b dated Aug 24, 1941. Inventor: Klassek, J. In German. 1.50
Drawings.

500-501 PB L 70432 BAKELITE G.M.B.H., ERKENER. Process for production of plastics from urea derivatives and solid polymeric aldehydes. Ger. patent 744 033, Jan 7, 1944. Application B 139 332 IVc/39c dated Sep 14, 1928. Inventor: Süssenguth, O. In German. 1.50
Supplement to patent 721 916.

502-503 PB L 70432 G.A. SCHEID'SCHE AFFINERIE, VIENNA, AUSTRIA. Silver alloys. Ger. patent 744 034, Jan 7, 1944. Application Sch 121 939 VIa/40b dated Feb 11, 1941. Inventor: Scheid, L. In German. 1.50

504-505 PB L 70432 METALLGESELLSCHAFT A.G., FRANKFURT A.M. Process for modification of aluminum-silicon alloys. Ger. patent 744 035, Jan 7, 1944. Application M 123 124 VIa/40b dated Mar 4, 1933. In German. 1.50

506-508 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Electromagnetic dynamometer. Ger. patent 744 036, Jan 7, 1944. Application L 103 160 IXb/42k dated Feb 2, 1941. Inventor: Hermann, P. In German. 1.50
Drawings.

509-511 PB L 70432 LATOUR, M. (Inventor). Structural member for metal frames (for electrical machinery). Ger. patent 744 037, Jan 7, 1944. Application L 96 528 IXb/42n dated Dec 13, 1938. In German. 1.50
Drawings.

512-514 PB L 70432 LAUBE, F. (Inventor). Process and equipment for setting plants in spherical molds consisting of an earth-manure mixture. Ger. patent 744 038, Jan 7, 1944. Application L 107 200 III/45f dated Mar 18, 1942. In German. 1.50
Drawings.

515-517 PB L 70432 BAYERISCHE MOTOREN WERKE A.G., MUNICH. Throttle for supercharged aircraft engines. Ger. patent 744 039, Jan 7, 1944. Application B 180 725 Ia/46b$^2$ dated Nov 17, 1937. Inventor: Friz, M. In German. 1.50
Drawing.

518-520 PB L 70432 KLÖCKNER-HUMBOLDT-DEUTZ, A.G., COLOGNE. Cylinder head for multi cylinder internal combustion engines. Ger. patent 744 040, Jan 7, 1940. Application K 156 340 Ia/46c$^1$ dated Dec 28, 1939. In German. 1.50
Drawings.

521-523 PB L 70432 EISENMANN, E. (Inventor). Light-metal pistons for internal combustion engines. Ger. patent 744 041, Jan 7, 1944. Application E 55 531 dated Nov 29, 1941. In German. 1.50
Drawings.

524-526 PB L 70432 ROHRBACH, H. (Inventor). Internal combustion engine with hydraulic pistons. Ger. patent 744 042, Jan 7, 1944. Application R 104 207 Ia/46f dated Jan 5, 1939. In German. 1.50
Drawings.

527-528 PB L 70432 PFISTER & LANGHAUSS, NÜRNBERG. Valve head with visible spindle (for plumbing valves). Ger. patent 744 043, Jan 7, 1944. Application P 82 534 XII/47g dated May 22, 1941. In German. 1.50
Drawing.

529-530 PB L 70432 MAHLE K.G., STUTTGART. Process for coating light-metal alloy pistons for internal combustion engines. Ger. patent 744 044, Jan 7, 1944. Application M 151 796 VIa/48a dated Sep 5, 1941. Inventor: Meyer-Rässler, E. In German. 1.50
Supplement to patent 695 182.

531-532 PB L 70432 SCHERING A.G., BERLIN. Galvanizing process for zinc and zinc alloys. Ger. patent 744 045, Jan 7, 1944. Application Sch 121 893 VIa/48a dated Feb 4, 1941. Inventor: Korpiun, J. In German. 1.50

533-534 PB L 70432 KIEKEBER, P. (Inventor). Process for producing hard, wear-resistant coatings on aluminum and aluminum alloys. Ger. patent 744 046, Jan 8, 1944. Application K 152 506 VIa/48a dated Nov 23, 1938. In German. 1.50

535-538 PB L 70432 SPIESS, G. (Inventor). Equipment for removing and conveying sheet-metal plates from a liquid bath. Ger. patent 744 047, Jan 8, 1944. Application K 157 720 VIa/48b dated May 24, 1940. In German. 1.50
Drawings.

539-540 PB L 70432 GEORG BENDA-LUTZWERKE, G.M.B.H., TRAISMAUER. Process for degreasing aluminum or magnesium powder. Ger. patent 744 048, Jan 8, 1944. Application L 196 227 VIa/48d dated Nov 11, 1941. Inventor: Lutz, F. In German. 1.50
Drawing.

541-543 PB L 70432 VOMAG VOGTLÄNDISCHE MASCHINEN-FABRIK A.G., PLAUEN. Safety-return for feeler gages on precision boring mills. Ger. patent 744 049, Jan 8, 1944. Application V 38 175 Ib/49a dated Oct 29, 1941. Inventor: Pomsel, F. In German. 1.50
Drawing.

544-545 PB L 70432 MASCHINENFABRIK DEUTSCHLAND G.M.B.H., DORTMUND. Variable supplementary support for the base of boring mills for locomotive rod bearings. Ger. patent 744 050, Jan 8, 1944. Application M 149 934 Ib/49a dated Feb 13, 1941. Inventors: Schneider, W. and Schulze, O. In German. 1.50
Drawings.

546-548
PB L 70432
WERNER, FRITZ, A.G., BERLIN. Control for high speed milling machines. Ger. patent 744 051, Jan 8, 1941. Application # 110 386 Ib/49b dated Feb 7, 1942. Inventor: Lappe, W. In German. Drawing. 1.50

549-550
PB L 70432
DÜRENER METALLWERKE A.G., BERLIN. Adjustment for the cutting angle of end milling cutters. Ger. patent 744 052, Jan 8, 1944. Application D 83 829 Ib/49b dated Nov 23, 1940. Inventor: Schild, A. In German. Drawings. 1.50

551-552
PB L 70432
FORSCHUNGSINSTITUT FÜR GETREIDE-CHEMIE, DARMSTADT. Process for increasing the baking capacity of wheat flour. Ger. patent 744 053, Jan 8, 1944. Application F 85 523 IVa/53c dated Jul 2, 1937. In German. 1.50

553-554
PB L 70432
NORDMARK WERKE G.M.B.H., HAMBURG. Process for albumen extraction from blood. Ger. patent 744 054, Jan 8, 1944. Application N 45 558 IVa/53i dated Apr 3, 1942. Inventor: Borchers, A. In German. 1.50

555-557
PB L 70432
AUTO UNION A.G., CHEMNITZ. Automotive gears. Ger. patent 744 056, Jan 8, 1944. Application A 88 270 II/63c dated Oct 12, 1938. In German. Drawings. 1.50

558-559
PB L 70432
ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Control equipment for automotive Diesel engines. Ger. patent 744 057, Jan 8, 1944. Application L 101 860 VIIIb/74b dated Sep 19, 1940. Inventor: Walter, K. In German. 1.50

560-561
PB L 70432
HACKBART, E. and others (Inventors). Installation for transmission of messages from several points to a central office. Ger. patent 744 058, Jan 8, 1944. Application H 158 786 VIIIb/74c dated Feb 16, 1939. In German. Wiring diagrams. 1.50

562-563
PB L 70432
LORENZ, C., A.G., BERLIN. Face angle indication by means of a cathode ray tube. Ger. patent 744 059, Jan 8, 1944. Application L 99 103 VIIIb/74c dated Sep 3, 1939. Inventor: Teichmann, H. In German. Drawings. 1.50

564-566
PB L 70432
ATLAS WERKE A.G., BREMEN. Rangefinding by means of sound waves. Ger. patent 744 060, Jan 8, 1944. Application A 88 706 VIIIb/74a dated Dec 28, 1938. Inventor: Mellenstein, R. In German. Drawings. 1.50

567-568
PB L 70432
BARMER MASCHINENFABRIK A.G., WUPPERTAL. Double-wire thread spindle. Ger. patent 744 061, Jan 8, 1944. Application B 192 971 VII/76c dated Jan 11, 1941. Inventor: Bochmann, O. In German. Drawing. 1.50

569-570
PB L 70432
VOORTMANN, T. (Inventor). Plug for drilled holes for blasting purposes. Ger. patent 744 063, Jan 8, 1944. Application V 35 441 IVb/78e dated Nov 29, 1938. In German. Drawings. 1.50

571-573
PB L 70432
STRÄTLING, W. & SCHWIETE, E. (Inventors). Process for production of cement mixtures. Ger. patent 744 064, Jan 13, 1944. Application St 56 443 VIb/80b dated Jul 25, 1937. In German. 1.50

574-586
PB L 70432
DEUTSCHE HOLERITH MASCHINEN G.M.B.H., BERLIN. Clock installation consisting of a central clock and auxiliary clocks. Ger. patent 744 065, Jan 13, 1944. Application D 83 761 VIIIb/83b dated Nov 16, 1940. Inventor: Bryce, J. In German. Drawings and wiring diagrams. 1.50

587-589
PB L 70432
POEGE & CO., APPARATE U. MASCHINENBAU K.G., GÖGGINGEN. Device for separating threads from cross-woven warps for warp knitting machines. Ger. patent 744 066, Jan 8, 1944. Application P 77 974 VII/86h dated Sep 30, 1938. Inventor: Poege, M. In German. Drawings. 1.50

590-591
PB L 70432
WITT, W. (Inventor). Device for transfer of pattern lines and marks to fabrics by means of a colored liquid. Ger. patent 744 067, Jan 8, 1944. Application W 105 812 VII/3d dated Jun 9, 1939. In German. Drawings. 1.50

592-593
PB L 70432
HARBURGER GUMMIWAREN-FABRIK PHOENIX A.G., HAMBURG. Sleeve for drill rod socket joints. Ger. patent 744 068, Jan 8, 1944. Application H 167 112 VIb/5a dated Dec 19, 1941. Inventor: Gros, K.

594-596
PB L 70432
NEUENBURG, H. (Inventor). Coal cutting machine. Ger. patent 744 069, Jan 20, 1944. Application N 43 863 VIb/5b dated Mar 1, 1940. In German. 1.50

597
PB L 70432
KÜRTH, R. (Inventor). Fermenting vats for the air-yeast process. Ger. patent 744070, Jan 8, 1944. Application K 145 792 IVa/6a dated Mar 17, 1936. In German. 1.50

598-599
PB L 70432
STICH, E. (Inventor). Process for decreasing foam formation in fermenting vats. Ger. patent 744 071, Jan 8, 1944. Application St 61 202 IVa/6a dated Oct 29, 1941. In German. 1.50

600-601
PB L 70432
LUX, F. (Inventor). Process for enrichment of beer and similar beverages with vitamins, etc. Ger. patent 744 072, Jan 8, 1944. Application L 103 104 IVa/6b dated Jan 25, 1941. In German. 1.50

602-604
PB L 70432
GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL, SWITZERLAND. Process for dyeing acetate rayons with dyes insoluble in water. Ger. patent 744 073, Jan 17, 1944. Application G 101 730 IVa/8m dated May 18, 1940. Inventor: Felix, F. In German. 1.50

605-606 PB L 70432 MASCHINENFABRIK FRIEDRICH HAAS K.G., REMSCHEID. Process for drying fabrics. Ger. patent 744 074, Jan 8, 1944. Application M 143 292 VII/8b dated Nov 8, 1938. Inventor: Haas, H. In German. 1.50

607-609 PB L 70432 I.G. FARBENINDUSTRIE A.G., FRANKFURT A.M. Process and apparatus for carrying out catalytic gas reactions. Ger. patent 744 075, Jan 8, 1944. Application I 65 343 IVb/12g dated Aug 3, 1939. Inventors: Pfannmüller, J. and Reichart, J. In German. Drawings. 1.50

610-611 PB L 70432 METALLGESELLSCHAFT A.G., FRANKFURT A.M. Catalytic process for conversion of carbon monoxide and hydrogen-containing gas mixtures to hydrocarbons. Ger. patent 744 076, Jan 11, 1944. Application M 138 086 IVd/12o dated May 16, 1937. Inventor: Herbert, W. In German. 1.50

612-613 PB L 70432 METALLGESELLSCHAFT A.G., FRANKFURT A.M. Process for production of high-boiling hydrocarbons such as paraffin, by catalytic conversion of carbon monoxide and hydrogen-containing gases. Ger. patent 744 077, Jan 11, 1944. Application M 138 697 IVd/12o dated Jul 18, 1937. Inventor: Herbert, W. In German. 1.50

614-615 PB L 70432 METALLGESELLSCHAFT A.G., FRANKFURT A.M. Process for production of hydrocarbons by hydrogenation of carbon monoxide. Ger. patent 744 078, Jan 8, 1944. Application M 139 309 IVd/12o dated Sep 26, 1937. Inventor: Herbert, W. In German. 1.50

616-617 PB L 70432 I.G. FARBENINDUSTRIE A.G., FRANKFURT A.M. Process for production of fatty acids from crude paraffin. Ger. patent 744 079, Jan 8, 1944. Application I 67 223 IVd/12o dated Jun 20, 1940. Inventors: Keunicke, E. and Nienburg, H. In German. 1.50

618-619 PB L 70432 THIELE, C. (Inventor). Process for production of fatty acids by ozonizing olefinic hydrocarbon mixtures. Ger. patent 744 080, Jan 11, 1944. Application T 50 522 IVd/12o dated Jun 12, 1938. In German. 1.50

620-622 PB L 70432 I.G. FARBENINDUSTRIE A.G., FRANKFURT A.M. Process for production of 2-methyl-3-butyn-2-ol. Ger. patent 744 081, Jan 11, 1944. Application I 62 008 IVd/12o dated Jul 21, 1938. Inventors: Pesta, O. and Ebel, F. In German. 1.50

622-623 PB L 70432 KALI-CHEMIE A.G., BERLIN. Process for production of sinter phosphates. Ger. patent 744 082, Jan 8, 1944. Application K 157 081 dated Mar 16, 1940. Inventor: Marschner, R. In German. 1.50

624-625 PB L 70432 JOST, H. (Inventor). Soil improving agent for cultivation of waste lands such as moors. Ger. patent 744 083, Jan 13, 1944. Application J 70 276 IVb/16 dated Aug 20, 1941. In German. 1.50

626-628 PB L 70432 HOMANN-WERKE WILHELM HOMANN, WUPPERTAL. Mechanical refrigerator. Ger. patent 744 084, Jan 8, 1944. Application H 163 272 Ia/17a dated Sep 26, 1940. In German. Drawings. 1.50

629-631 PB L 70432 OEHLSCHLÄGEL, H. (Inventor). Mechanical refrigerator (especially for use in the tropics). Ger. patent 744 085, Jan 8, 1944. Application M 153 020 dated Jan 21, 1942. In German. Drawings. 1.50

632-634 PB L 70432 HAZELTINE CORPORATION, JERSEY CITY, N.J. Circuit for regulation of the amplification coefficient of a vacuum tube. Ger. patent 744 086, Jan 8, 1944. Application H 157 020 VIIIa/21a$^2$ dated Sep 4, 1938. Inventor: Farrington, J. In German. Wiring diagram. 1.50

635-636 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Negative A.C. resistance. Ger. patent 744 087, Jan 8, 1944. Application dated Feb 18, 1938. Inventor: Stäblein, W. In German. Wiring diagram. 1.50

637-639 PB L 70432 SIEMENS & HALSKE A.G., BERLIN. Loud-speaking telephone with feed-back block. Ger. patent 744 088, Jan 8, 1944. Application S 132 034 VIIIa/21a$^2$ dated May 10, 1938. Inventor: Seiffert, B. In German. Wiring diagram. 1.50

640-642 PB L 70432 SIEMENS & HALSKE A.G., BERLIN. Circuit for linearization control of an amplifier based on negative feed-back. Ger. patent 744 089, Jan 17, 1944. Application S 141 524 VIIIa/21a$^2$ dated Jul 2, 1940. Inventor: Wittekindt, W. In German. Wiring diagram. 1.50

643-645 PB L 70432 HAGEN, GOTTFRIED A.G., COLOGNE. Mounting for steel plates in battery cases. Ger. patent 744 090, Jan 8, 1944. Application H 165 875 IVb/21b dated Jul 20, 1941. Inventor: Bezon, H. In German. Drawings. 1.50

646-648 PB L 70432 N.V. FABRIEK VAN ELEKTRISCHE APPARATEN, HENGELO, HOLLAND. Method for the construction, repair or test of insulators or contacts contained in an oil-filled housing. Ger. patent 744 091, Jan 8, 1944. Application N 44 809 VIIIb/21c dated Jun 8, 1941. Inventor: de Rook, H. In German. Drawing. 1.50

649-651 PB L 70432 MIX & GENEST A.G., BERLIN. Lever switch for release of alarm signals in telecommunications installations. Ger. patent 744 092, Jan 8, 1944. Application M 151 788 VIIIb/21c dated Sep 2, 1941. Inventor: Buck, B. In German. Drawings. 1.50

652-654 PB L 70432 SIEMENS APPARATE UND MASCHINEN G.M.B.H., BERLIN. Circuit for the control of battery chargers, etc. Ger. patent 744 093, Jan 8, 1944. Application S 138 175 VIIIb/21c, dated Aug 8, 1939. Inventor: Hasse, H. In German. 1.50
Drawings.

655-657 PB L 70432 LANDIS & GYR A. G., ZUG, SWITZERLAND. Process for group remote control of hot water feed systems, display lighting equipment, etc., over a special circuit. Ger. patent 744 094, Jan 8, 1944. Application L 97895 VIIIb/21c, dated May 5, 1939. Inventor: Koenig, W. In German. 1.50
Wiring diagram.

658-660 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Current-controlled relay arrangement. Ger. patent 744 095, Jan 8, 1944. Application L 102 372 VIIIb/21c, dated Nov 14, 1940. Inventor: Gutmann, H. In German. 1.50
Wiring diagrams.

661-663 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Equipment to eliminate failures in release of safety devices when switching-on inductive components (especially for quick-differential protection of transformers). Ger. patent 744 096, Jan 8, 1944. Application L 99 728 VIIIb/21c, dated Dec 20, 1939. Inventor: Gutmann, H. In German. 1.50

664-665 PB L 70432 SIEMENS & HALSKE A. G., BERLIN. Check-circuit for a protective relay. Ger. patent 744 097, Jan 8, 1944. Application S 131 258 VIIIb/21c, dated Mar 2, 1938. Inventor: Ramelot, C. In German. 1.50
Wiring diagram.

666-667 PB L 70432 ALLGEMEINE ELEKTRICITATS GES., BERLIN. Protective circuit with a safety switch for short circuit prevention. Ger. patent 744 098, Jan 8, 1944. Application L 97 626 VIIIb/21c, dated Apr 4, 1939. Inventors: Gonsior, J. and Naffin, W. In German. 1.50
Wiring diagram.

668-670 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Fuse cutout. Ger. patent 744 099, Jan 8, 1944. Application L 100 713 VIIIb/21c, dated Apr 27, 1940. Inventor: Wehrle, C. In German. 1.50
Drawings.

671-672 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Spark gap for air-blow circuit breakers. Ger. patent 744 100, Jan 10, 1944. Application L 98761 VIIIb/21c, dated Aug 10, 1939. Inventors: Frdhauf, G. and Hattendorf, H. In German. 1.50

673-674 PB L 70432 SIEMENS-SCHUCKERTWERKE A. G., BERLIN. Spark gap arrangement for overload protection. Ger. patent 744 101, Jan 18, 1944. Application S 138 879 VIIIb/21c, dated Oct 14, 1939. Inventors: Wandeberg, E. and Pinschke, G. In German. 1.50
Drawing.

675-677 PB L 70432 SIEMENS SCHUCKERTWERKE A. G., BERLIN. Device for lowering central tap surge voltage of single and polyphase transformers. Ger. patent 744 102, Jan 17, 1944. Application S 140 836 VIIIb/21c, dated Apr 24, 1940. Inventor: Elsner, R. In German. 1.50
Wiring diagrams.

678-680 PB L 70432 SIEMENS SCHUCKERTWERKE A. G., BERLIN. Overload arrester. Ger. patent 744 103, Jan 10, 1944. Application S 141 212 VIIIb/21c, dated Jun 4, 1940. Inventors: Kesselring, F. and Foitzik, R. In German. 1.50
Drawing.

681-682 PB L 70432 BOSCH, ROBERT, G.M.B.H., STUTTGART, GERMANY. Low-powered refrigerator motor. Ger. patent 744 104, Jan 10, 1944. Application B 196 411 VIIId/21d1, dated Dec 11, 1941. Inventors: Rahmann, F. and Meier, H. In German. 1.50
Drawings.

683-684 PB L 70432 ZEISS IKON A. G., DRESDEN, GERMANY. Method for increased output of (alkali metal) layers capable of secondary emission. Ger. patent 744 105, Jan 10, 1944. Application Z 25 471 VIIIc/21g, dated Sep 14, 1939. Inventor: Görlich, P. In German. 1.50

685-687 PB L 70432 FERNSEH G.M.B.H., BERLIN. Process to increase depth definition in projection with high-vacuum cathode ray tubes having an inclined screen. Ger. patent 744 106, Jan 10, 1944. Application F 83455 VIIIc/21g, dated Aug 7, 1937. Inventor: Schwartz, E. In German. 1.50
Drawings.

688 PB L 70432 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Leather grease. Ger. patent 744 107, Jan 10, 1944. Application I 68 020 IVd/28a, dated Oct 12, 1940. Inventors: Otto, G. and others. In German. 1.50

689-690 PB L 70432 VEREINIGTE GLANZSTOFF-FABRIKEN A. G., WUPPERTAL, GERMANY. Device for cutting continuous synthetic fiber bundles in staples. Ger. patent 744 108, Jan 10, 1944. Application V 37 478 VII/29a, dated Mar 4, 1941. Inventor: Maxton, A. In German. 1.50
Drawings.

691-693 PB L 70432 VEREINIGTE GLANZSTOFF-FABRIKEN A. G., WUPPERTAL, GERMANY. Conveying system for rayon thread. Ger. patent 744 109, Jan 10, 1944. Application V 36 765 VII/29a, dated Jun 13, 1940. Inventor: Schwendinger, P. In German. 1.50
Drawings.

694-695 PB L 70432 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Equipment for production of synthetic yarns of arbitrary fineness. Ger. patent 744 110, Jan 10, 1941. Application I 61 826 VII/29a, dated Jul 7, 1938. Inventors: Fink, H. and von Recklinghausen, H. In German. 1.50
Supplement to patent 736 321. Drawing.

696-698 PB L 70432 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Equipment for production of synthetic yarns of arbitrary fineness. Ger. patent 744 111, Jan 10, 1944. Application I 61 889 VII/29a, dated Jul 10, 1938. Inventors: Fink, H. and von Recklinghausen, H. In German. 1.50
Supplement to patent 736 321. Drawings.

699-701 PB L 70432 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Equipment for production of synthetic yarns of arbitrary fineness. Ger. patent 744 112, Jan 10, 1944. Application I 65 271 VII/29a, dated Jul 28, 1939.

Inventors: Stahn, R. and Fink, H. In German. 1.50
Supplement to patent 736 321. Drawings.

702-703 PB L 70432 VASENOL-WERKE DR. ARTHUR KÖPP K. G., LEIPZIG, GERMANY. Process for production of powders containing sulfur (for cosmetic and medicinal purposes). Ger. patent 744 113, Jan 10, 1944. Application V 36 221 IVa/30h, dated Oct 10, 1939. Inventor: Fiedler, H. In German. 1.50

704-706 PB L 70432 ODELGA, J., ÄRZTLICH-TECHN. INDUSTRIE A. G., VIENNA, AUSTRIA. Sterilizer for laundry, instruments, etc. Ger. patent 744 115, Jan 10, 1944. Application O 25 068 IVa/301, dated Jul 17, 1941. Inventor: Kalasek, K. In German. 1.50
Drawings.

707-709 PB L 70432 DÜRENER METALLWERKE A. G., BERLIN. Mold for casting plated ingots and plates. Ger. patent 744 116, Jan 10, 1944. Application D 80 473 VIa/31c, dated May 21, 1939. Inventor: Werning, K. In German. 1.50
Drawings.

710-712 PB L 70432 GAUCHEL, W. (Inventor). Safety device for planers. Ger. patent 744 117, Jan 10, 1944. Application G 102 150 XII/38e, dated Aug 27, 1940. In German. 1.50
Drawings.

713-714 PB L 70432 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Fireproofing process for wood, paper, straw, etc. Ger. patent 744 118, Jan 10, 1944. Application I 62 867 IVd/38h, dated Nov 11, 1938. Inventors: Scheuermann, H. and Michelitsch, W. In German. 1.50

715-717 PB L 70432 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Plastics from superpolyamides. Ger. patent 744 119, Jan 11, 1944. Application P 79 712 IVc/39b, dated Sep 5, 1939. Inventor: Dykstra, H. In German. 1.50

718-720 PB L 70432 BOGNAR, A. (Inventor). Process for dressing ores, etc. Ger. patent 744 120, Jan 10, 1944. Application B 181 614 VIa/40a, dated Jan 25, 1938. In German. 1.50

721-722 PB L 70432 KOHLMEYER, M. and RETZLAFF, H. (Inventors). Process for improving the properties of pure aluminum. Ger. patent 744 121, Jan 10, 1944. Application K 150 057 VIa/40b, dated Mar 25, 1938. In German. 1.50

723-724 PB L 70432 MAUSER WERKE A. G., OBERNDORF, GERMANY. Vernier calipers. Ger. patent 744 122, Jan 15, 1944. Application M 146 682 IXb/42b, dated Dec 13, 1939. Inventors: Maier, E. and Graf, J. In German. 1.50
Drawing.

725-727 PB L 70432 ARGUS MOTOREN G.M.B.H., BERLIN. Regulator for aircraft engines. Ger. patent 744 123, Jan 18, 1944. Application A 84 423 Ia/46b, dated Oct 9, 1937. Inventors: Gosslau, F. and Schmidt, J. In German. 1.50
Drawings.

728-730 PB L 70432 SIEMENS & HALSKE A. G., BERLIN. Conveyor system for surface treatment, especially for galvanic and electrochemical purposes. Ger. patent 744 124, Jan 10, 1944. Application S 142 462, dated Oct 2, 1940. Inventor: Kissel, W. In German. 1.50
Drawings.

731-733 PB L 70432 BOLEY, G., WERKZEUG U. MASCHINEN-FABRIK, ESSLINGEN, GERMANY. Equipment for producing bore holes with convex surfaces. Ger. patent 744 125, Jan 10, 1944. Application B 192 528 Ib/49a, dated Nov 26, 1940. Inventor: Schuster, W. In German. 1.50
Drawings.

734-735 PB L 70432 METALLGESELLSCHAFT A. G., FRANKFURT AM MAIN, GERMANY. Process to increase the yield of potato juice. Ger. patent 744 126, Jan 10, 1944. Application M 153 572 IVa/531, dated Mar 13, 1942. Inventor: Mattern, K. In German. 1.50
Drawings.

736-738 PB L 70432 GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL, SWITZERLAND. Process for the production of pure, albumin-free acid casein. Ger. patent 744 127, Jan 10, 1944. Application G 105 185 IVa/531, dated Apr 10, 1942. Inventor: Schibler, L. In German. 1.50

739-743 PB L 70432 MAJER, C. (Inventor). Machine for the production of cylindrical or conical containers of paper or pasteboard. Ger. patent 744 128, Jan 10, 1944. Application M 143 892 VII/54c, dated Jan 12, 1939. In German. 1.50
Supplement to patent 643 064. Drawings.

744-746 PB L 70432 MACKENSEN, A. W., MASCHINENFABRIK UND EISENGIESSEREI G.M.B.H., MAGDEBURG, GERMANY. Centrifugal pump. Ger. patent 744 129, Jan 10, 1944. Application M 152 898 Ia/59b, dated Jan 8, 1942. Inventor: Bungarts, P. In German. 1.50
Drawing.

747-748 PB L 70432 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Fire-extinguishing substance. Ger. patent 744 130, Jan 11, 1944. Application I 62 514 IVb/61b, dated Sep 24, 1938. Inventor: Dachlauer, K. In German. 1.50

749-751 PB L 70432 KRAFT, J. A., MASCHINENFABRIK, OLPE, GERMANY. Winding apparatus for rope, cables, wire, yarns, etc. Ger. patent 744 131, Jan 10, 1944. Application K 158 514 VII/73, dated Aug 23, 1940. Inventor: Haacke, H. In German. 1.50
Drawings.

752-754 PB L 70432 SIEMENS SCHUCKERTWERKE A. G., BERLIN. Network control board. Ger. patent 744 132, Jan 10, 1944. Application S 140 891 VIIIb/74b, dated Apr 27, 1940. Inventor: Goebel, O. In German. 1.50
Diagram.

755-758 PB L 70432 SCHOLLER, H. and EICKEMEYER, R. (Inventors). Fermenting process and equipment, especially for yeast production. Ger. patent 744 133, Jan 10, 1944. Application Sch 100076 IVa/6a, dated Jan 11, 1933. In German. 1.50
Drawings.

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1938. Inventor: Haetkamp, H. In German. Drawing. 1.50

761-762 PB L 70432 DEUTSCHE GOLD UND SILBER SCHEIDE-ANSTALT, FRANKFURT AM MAIN, GERMANY. Retort for wood carbonization. Ger. patent 744 135, Jan 10, 1944. Application D 74 846 VIb/10a, dated Mar 14, 1937. Inventor: Reichert, T. In German. 1.50

763-764 PB L 70432 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for separation of mixtures of high-molecular fatty acids. Ger. patent 744 136, Jan 20, 1944. Application I 67 281 IVd/12o, dated Jun 28, 1940. Inventors: Keunicke, E. and others. In German. 1.50

765-766 PB L 70432 THUMPLER & RIESS CO., WORMS, GERMANY. Process for preparation of sulfonation products. Ger. patent 744 137, Jan 18, 1944. Application C 52 828 IVd/12o, dated May 19, 1937. Inventor: Riess, W. In German. 1.50

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769-770 PB L 70432 HÜTGERSWERKE A. G., BERLIN. Process to increase the fusion point of coal tar pitch. Ger. patent 744 139, Jan 11, 1944. Application R 98 677 IVd/12r, dated Feb 25, 1937. Inventor: Taeger, E. In German. 1.50

771-772 PB L 70432 AKTIENGESELLSCHAFT VORM. SKODAWERKE, PILSEN, CZECHOSLOVAKIA. Manufacturing process for armor plate. Ger. patent 744 140, Jan 11, 1944. Application A 79 672 VIa/18c, dated Jun 16, 1936. Inventors: Poboul, F. and others. In German. 1.50

773-774 PB L 70432 VEREINIGTE EISENBAHN-SIGNALWERKE G.M.B.H., BERLIN. Control equipment for railway signal lights. Ger. patent 744 141, Jan 10, 1944. Application V 34 883 II/20i, dated May 25, 1938. Inventor: Jacobsen, U. In German. Diagram. 1.50

775-776 PB L 70432 DEUTSCHE TELEPHONWERKE UND KABEL-INDUSTRIE A. G., BERLIN. Circuit for dial system telephone extension installations. Ger. patent 744 142, Jan 10, 1944. Application D 74 118 VIIIa/21a$^3$, dated Dec 11, 1936. Inventor: Hardt, A. In German. Wiring diagrams. 1.50

779-780 PB L 70432 TELEFUNKEN GESELLSCHAFT FÜR DRAHTLOSE TELEGRAPHIE M.B.H., BERLIN. Superheterodyne receiver with a multigrid mixer tube. Ger. patent 744 143, Jan 26, 1944. Application T 40840 VIIIa/21a$^4$, dated Jun 5, 1932. Inventor: Jobst, G. In German. 1.50

781-783 PB L 70432 ATELIERS DE CONSTRUCTIONS ELECTRIQUES DE DELLE, S. A., PARIS. Device to reduce the flashover interval in switch operation. Ger. patent 744 144, Jan 10, 1944. Application A 74 855 VIIIb/21c, dated Dec 18, 1934. In German. Drawings. 1.50

784-786 PB L 70432 SIEMENS & HALSKE A. G., BERLIN. Multiple vacuum switch. Ger. patent 744 145, Jan 10, 1944. Application S 139 416 VIIIb/21c, dated Dec 2, 1939. Inventors: Lindner, W. and Werner, K. In German. Drawings. 1.50

787-788 PB L 70432 SIEMENS-SCHUCKERTWERKE A. G., BERLIN. Arrangement for suppression of harmonics in iron-containing A.C. transformers. Ger. patent 744 146, Jan 10, 1944. Application S 130 887 VIIId/21d$^2$, dated Jan 27, 1932. Inventors: Rüdenberg, R. and Friedländer, E. In German. Wiring diagram. 1.50

789-791 PB L 70432 KOCH & STERZEL A. G., DRESDEN, GERMANY. Transformer. Ger. patent 744 147, Jan 10, 1944. Application K 154 067 VIIId/21e, dated Apr 9, 1939. Inventor: Günther, E. In German. Diagrams. 1.50

792-795 PB L 70432 VAN DYCK, A. (Inventor). Vacuum tube filament consisting of a hollow wire. Ger. patent 744 148, Jan 10, 1944. Application D 76 608, dated Nov 16, 1937. In German. Drawings. 1.50

796-797 PB L 70432 LORENZ, C., A. G., BERLIN. Process for producing magnet cores, etc., from metal powder. Ger. patent 744 149, Jan 10, 1944. Application L 92 942 VIIIc/21g, dated Jul 24, 1937. Inventor: Brinkmann, H. In German. 1.50

798-799 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Band-pass filter of fitted links with various damping properties, consisting merely of parallel resonance circuits. Ger. patent 744 150, Jan 10, 1944. Application A 79 938 VIIIc/21g, dated Jul 9, 1936. Inventor: Piloty, H. In German. Wiring diagrams. 1.50

800-801 PB L 70432 HERAEUS-VACUUMSCHMELZE A. G., HANAU, GERMANY. Coil for coreless induction furnaces. Ger. patent 744 151, Jan 11, 1944. Application H 149 787 VIIIc/21h, dated Dec 4, 1936. In German. 1.50

802-804 PB L 70432 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Circuit for spot and seam welders with modulator welding control. Ger. patent 744 152, Jan 10, 1944. Application A 84 485 VIIIc/21h, dated Oct 13, 1937. Inventors: Rietsch, E. and Haake, G. In German. Wiring diagrams. 1.50

805-806 PB L 70432 S. A. DES ATELIERS DE SECHERON, GENEVA, SWITZERLAND. Welding rod for welding by electrically or chemically produced heat. Ger. patent 744 153, Jan 10, 1944. Application S 108 546 VIIIc/21h, dated Jun 23, 1932. In German. 1.50

807-809 PB L 70432 VEREINIGTE ALUMINIUMWERKE A. G., LAUSITZ, GERMANY. Process for coating light metal welding rods, especially for arc welding. Ger. patent 744 154, Jan 11, 1944. Application V 34 273 VIIIc/21h, dated Oct 31, 1937. Inventors: Röhrig, H. and Auchter, C. In German. 1.50

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such as manganese silicates, etc., are placed on the welding seam, and into which the electrode is dipped. Ger. patent 744 155, Jan 11, 1944. Application U 12 496 VIIIc/21h, dated Feb 20, 1934. In German. 1.50

813-814 PB L 70432 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparation of chrome dyes of the phthalein series. Ger. patent 744 156, Jan 18, 1944. Application I 55 731 IVd/22b, dated Aug 12, 1936. Inventors: Eckert, W. and Schilling, K. In German. 1.50
Supplement to patent 692 708.

815-816 PB L 70432 BRAUNKOHLE-BENZIN A. G., BERLIN. Method for corrosion prevention in pipe lines for tar-free byproduct gases. Ger. patent 744 157, Jan 10, 1944. Application B 193 873, dated Apr 2, 1941. Inventor: Klier, S. In German. 1.50

817-818 PB L 70432 DIBBERN, G. (Inventor). Rubber riser and pouring gate patterns. Ger. patent 744 158, Jan 10, 1944. Application D 85 430 VIa/31c, dated Jul 1, 1941. In German. 1.50
Drawings.

819-822 PB L 70432 GLYCO-METALL-WERKE DAELEN & LOOS, WIESBADEN, GERMANY. Process for production of metallic coatings on metal strips. Ger. patent 744 159, Jan 10, 1944. Application G 103 072 VIa/31c, dated Feb 23, 1941. Inventor: Gumprecht, H. In German. 1.50
Drawings.

823-825 PB L 70432 S. A. G. DUMONT ET FRÈRES, SCLAIGNEAUX, BELGIUM. Process and apparatus for condensation of zinc vapor. Ger. patent 744 160, Jan 10, 1944. Application S 135 764 VIa/40a, dated Feb 5, 1939. Inventor: Neve, P. In German. 1.50
Drawings.

826-828 PB L 70432 ASKANIA WERKE A. G., BERLIN. Fixed gyro for determination of angular acceleration. Ger. patent 744 161, Jan 10, 1944. Application A 81 216 IXb/42c, dated Nov 28, 1936. Inventor: von Manteuffel, G. In German. 1.50
Drawings.

829-830 PB L 70432 ZEISS IKON A. G., DRESDEN, GERMANY. Process for exposure measurements. Ger. patent 744 162, Jan 11, 1944. Application Z 25 017 IXa/42h, dated Jan 14, 1939. Inventor: Bartels, H. In German. 1.50

831-832 PB L 70432 BRAUNSCHWEIGER HÜTTENWERK G.M.B.H., BRAUNSCHWEIG, GERMANY. Manufacturing process for babbitt bearing bushings. Ger. patent 744 163, Jan 11, 1944. Application B 182 003 VIa/48b, dated Feb 20, 1938. Inventor: Meier, E. In German. 1.50
Supplement to patent 708 048.

833-834 PB L 70432 BREUNER, W. (Inventor). Roll film. Ger. patent 744 164, Jan 10, 1944. Application dated Apr 28, 1934. In German. 1.50
Supplement to patent 638 733. Drawings.

835-836 PB L 70432 MESSERSCHMITT A. G., AUGSBURG, GERMANY. Fuselage with pressurized cabin. Ger. patent 744 165, Jan 10, 1944. Application M 146 304 XI/62b, dated Nov 5, 1939. Inventor: Hägelschäffer, F. In German. 1.50
Drawings.

837-839 PB L 70432 AMBI-BUDD PRESSWERK G.M.B.H., BERLIN. Automobile body. Ger. patent 744 166, Jan 10, 1944. Application A 81 920 II/63c, dated Feb 6, 1937. Inventor: Schaefer, K. In German. 1.50
Drawings.

840-841 PB L 70432 VEREINIGTE KUGELLAGERFABRIKEN A. G., SCHWEINFURT, GERMANY. Tubular head piece for textile spindles. Ger. patent 744 167, Jan 10, 1944. Application V 35 544 VII/76c, dated Jan 5, 1939. Inventors: Stahlecker, W. and Schmid, E. In German. 1.50
Drawings.

842-843 PB L 70432 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for the manufacture of cement. Ger. patent 744 168, Jan 10, 1944. Application I 49 936 VIb/80b, dated Jun 17, 1934. Inventors: Daimler, K. and Thron, H. In German. 1.50

844-845 PB L 70432 ZÖLLER, A. (Inventor). Magnetic separator. Ger. patent 744 169, Jan 10, 1944. Application Z 27 963 VIb/1b, dated May 25, 1943. In German. 1.50
Drawings.

846-848 PB L 70432 SCHÜCHTERMANN & KREMER-BAUM A. G. FÜR AUFBEREITUNG, DORTMUND, GERMANY. Floating and dropping receptacle for coal separation. Ger. patent 744 170, Jan 10, 1944. Application Sch 124 433 VIb/1c, dated Mar 19, 1942. Inventor: Schmidtgen, A. In German. 1.50
Drawing.

849-850 PB L 70432 FATTINGER, H. (Inventor). Bread baking process. Ger. patent 744 171, Jan 11, 1944. Application F 90 399 IVa/2c, dated Aug 15, 1941. In German. 1.50

851-852 PB L 70432 BERNHARDT, H. (Inventor). Luminous Christmas-tree ornament. Ger. patent 744 172, May 31, 1944. Application B 199 569 IXa/45b, dated Sep 12, 1942. In German. 1.50
Drawings.

853-855 PB L 70432 ILBERG, A. (Inventor). Mining and handling apparatus for working ore in seams. Ger. patent 744 173, Jan 10, 1944. Application I 69 084 VIb/5b, dated Mar 11, 1941. In German. 1.50
Supplement to patent 720 812. Drawings.

856-858 PB L 70432 MALTER, F. and MANN, A. (Inventors). Knives for bilateral coal cutting machine. Ger. patent 744 174, Jan 10, 1944. Application M 156 907 VIb/5b, dated Feb 27, 1943. In German. 1.50
Drawings.

859-862 PB L 70432 DÜSTERLOH, G., FABRIK FÜR BERGWERKSBEDARF G.M.B.H., SPROCKHÖVEL, GERMANY. Support for mine ceilings. Ger. patent 744 175, Jan 11, 1944. Application D 79 729 VIb/5c, dated Jan 24, 1939. Inventor: Wiedelmann, K. In German. 1.50
Drawings.

863-866 PB L 70432 STICH, E. (Inventor). Process and equipment for production of yeast - or for simultaneous production of yeast and alcohol. Ger. patent

744 176, Jan 11, 1944. Application St 61 912 IVa/6a, dated Jun 6, 1942. In German. 1.50
Drawings.

867-868 PB L 70432 SINGER, F. (Inventor). Process for cold-working oxide and scale-coated steel pipe. Ger. patent 744 177, Jan 11, 1944. Application S 137 176 Ib/7b, dated May 24, 1939. In German. 1.50

869-871 PB L 70432 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for dyeing or producing designs on fibrous materials. Ger. patent 744 178, Jan 21, 1944. Application I 70 591 IVd/8m, dated May 28, 1939. Inventor: Müsslein, J. In German. 1.50

872-873 PB L 70432 BERGFELD, K. (Inventor). Carbonization process for oleiferous and bituminous rocks such as asphalt and oil shale. Ger. patent 744 182, Jan 25, 1944. Application B 180 102 VIb/10a, dated Sep 28, 1937. In German. 1.50

874-875 PB L 70432 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Packing for fractionating columns. Ger. patent 744 183, Jan 12, 1944. Application I 69 959 IVa/12a, dated Jun 29, 1941. Inventor: Loers, F. In German. 1.50
Drawing.

876-877 PB L 70432 RUHRCHEMIE A. G., OBERHAUSEN, GERMANY. Catalytic process for CO hydrogenation. Ger. patent 744 184, Feb 25, 1944. Application R 107 457 IVd/12o, dated Apr 30, 1940. Inventors: Alberts, L. and Feisst, W. In German. 1.50

878-880 PB L 70432 RUHRCHEMIE A. G., OBERHAUSEN, GERMANY. Process for CO hydrogenation over contacts suspended in a liquid medium. Ger. patent 744 185, Jan 26, 1944. Application R 109 563 IVd/12o, dated Mar 11, 1941. Inventors: Tramm, H. and Wischermann, W. In German. 1.50

881-882 PB L 70432 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for the production of esters. Ger. patent 744 186, Jan 11, 1944. Application I 71 093 IVd/12o, dated Dec 14, 1941. Inventors: Becke, F. and Keller, C. In German. 1.50

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Drawings.

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